GPS AutoSteer System
Installation Manual

Supported Vehicles

John Deere

8120	7720
8220	7820
8320	7920
8420	
8520	
8130	7730
8230	7830
8330	7930
8430	
8530	

AutoTrac Ready

PN: 602-0189-01-A

LEGAL DISCLAIMER

Note: Read and follow ALL Instructions in this manual carefully before installing or operating the AutoSteer system.

Note: Take careful note of the information in the Safety Information section and throughout this manual.

The manufacturer disclaims any liability for damage or injury that results from failure to follow the instructions and warnings set forth herein.

Please take special note of the following warnings:

1. There is NO obstacle avoidance system included in the manufacturer's product. Therefore, users must always have an operator on the equipment when the AutoSteer system is in use to look for any obstacles including people, animals, trees, ditches, buildings, etc.
2. During installation of the AutoSteer system and during the Calibration and Tuning processes the vehicle's wheels turn from side to side and the vehicle moves. Be sure that all people and obstacles are clear of the vehicle before installation, calibration and tuning, or use of the AutoSteer system.
3. Use of the AutoSteer system is NOT permitted while equipment is on roads or in public areas. Follow the instructions set forth below for ensuring that the system is OFF before driving on roads or in public areas.

Special Requirements

Tools

This list consists of the tools required to complete the installation. The installer is assumed to have a complete set of common installation tools.

Allen Hex Key 1/4”	11/16” open wrench	16mm open wrench
Allen Hex Key 3/16”	5/8” open wrench	17mm open wrench
Allen Key 5/32”	9/16” open wrench (2x)	18mm open wrench
Allen Hex Key 1/8”	1/2” open wrench	19mm open wrench
15/16” open wrench	7/16” open wrench	22mm open wrench
7/8” open wrench	15/16” socket wrench	24mm open wrench
13/16” open wrench	13mm open wrench	32mm open wrench
3/4” open wrench	Hacksaw with steel cutting blade	22mm socket wrench
Breaker bar for 22mm socket	Wire cutter small	Cleaning rags
Torque wrench for 22mm socket	Cleaning brush	Tape measure (12ft minimum)
#1 Phillips screwdriver	Ten Foot Ladder (3 meters)	Fiberglass Cable Puller
#2 Phillips screwdriver		

Safety Information

Warning Alerts

The AutoSteer system installer and manufacturer disclaim any responsibility for damage or physical harm caused by failure to adhere to the following safety requirements:

- As the operator of the vehicle, you are responsible for its safe operation.
- The steering system is *not* designed to replace the vehicle's operator.

Note: Verify that all screws, bolts, nuts and cable connections are tight after the final installation of the AutoSteer system on the vehicle.

⚠ WARNING

To avoid electrical shock hazards, remove the roof module from the vehicle before driving under low structures or low electrical power lines.

⚠ WARNING

To prevent injury from falling, ensure you are in a stable position on the vehicle when installing or removing the roof rail and roof module. If the vehicle does not provide a safe platform, use a ladder to safely access the vehicle roof while installing or removing the roof rail and roof module.

⚠ WARNING

To prevent accidental death or injury from being run over by the vehicle, never leave the vehicle's operator chair with the GPS system engaged.

⚠ WARNING

To understand the potential hazards associated with the operation of AutoSteer equipment read the provided documentation before installing the GPS steering system on a vehicle.

⚠ WARNING

To prevent the accidental engagement of GPS steering and loss of vehicle control while driving on roads, shut down the AutoSteer system (exit the program). Never drive on roads or in public areas with the GPS steering system turned on.

Caution Alerts

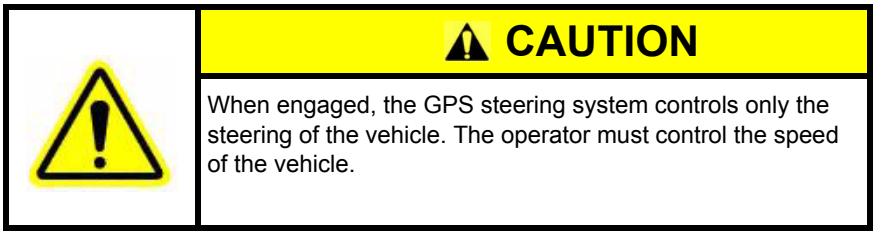
The AutoSteer system installer and manufacturer disclaim any responsibility for damage or physical harm caused by failure to adhere to the following safety requirements:

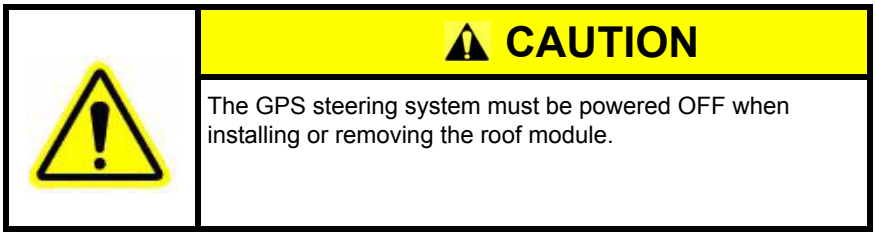
⚠ CAUTION

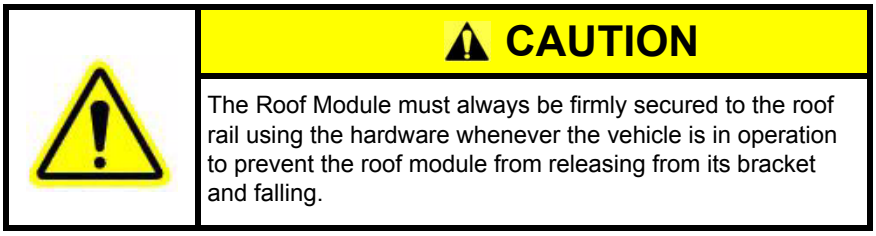
The roof module must be removed when transporting or driving the vehicle at speeds above 30 mph (50 km/h). The roof module can possibly detach due to wind loads at higher speeds.

⚠ CAUTION

The GPS steering system does not detect obstacles in the vehicle's path. The operator must observe the path being driven in order to avoid obstacles.


CAUTION
When engaged, the GPS steering system controls only the steering of the vehicle. The operator must control the speed of the vehicle.




CAUTION
The Roof Module must always be firmly secured to the roof rail using the hardware whenever the vehicle is in operation to prevent the roof module from releasing from its bracket and falling.

Vehicle Requirements

The vehicle steering and hydraulic systems must be in good working order before installing the AutoSteer system. Check for loose or worn parts. Before installing the AutoSteer system drive the vehicle and confirm that it steers straight and the wheels can be turned from lock to lock. Check the steering system hydraulic hoses and connections to ensure there are no oil leaks.

The vehicle electrical system and battery must be in good working order.

The vehicle must be an AutoTrac ready model with the factory steering valve, steering wheel encoders and the Kingpin wheel angle sensor or flow meter. The vehicle should be fully cleaned before installing the AutoSteer system. A clean vehicle will improve the overall installation and cable routing.

Important Information

Note: Verify that all screws, bolts, nuts and cable connections are tight after the final installation of the AutoSteer system on the vehicle.

Technical Support

Refer to your owner's manual for technical support information.

Contact Information

Refer to your owner's manual for contact information.

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Installation Overview

This **Installation Overview** chapter contains part numbers, kit overview diagram, cabling diagram and the installation procedure for the John Deere 8030 MFWD AutoTrac Installation Kit.

- *Vehicle Inspection*
- *Installation Procedure Outline*
- *Kit Overview*
  - *AutoSteer Kit Assemblies*
  - *Bracket Kit*
  - *Termination Kit*
- *Cable Diagram*

This installation guide describes the installation of the AutoSteer system on all the John Deere AutoTrac series vehicles listed on the front cover. They all share the same top-level AutoSteer installation kit PN: 188-0001-01.

Vehicle Inspection

Before AutoSteer system installation confirm the vehicle steering system is in good working order. Also, ensure the following system operations and components:

- Check to see if you can turn the front wheels from lock to lock.
- Ensure the vehicle steers straight.
- Check for loose or worn steering components.
- Ensure the hydraulic fluid level is correct.
- Service the vehicle if the steering is not in good working order.
- Confirm the vehicle is AutoTrac[1] Ready and has the factory installed steering valve.

Note: If you are installing an electric steering wheel actuator such as OnTrac II, skip the SA Module, Steering Valve connection and System Cable connection installation provided in this manual. Refer to your electric steering product manual for additional instructions.

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1. AutoTrac is a trademark of Deere and Company.

Installation Procedure Outline

Note: The system interconnect cable diagram in the *Cable Diagram* on page 7 section of this chapter shows the AutoSteer electrical connections.

1. Verify shipped components.
2. Install the Wheel Angle Sensor. (Optional)
3. Install the SA Module.
4. Install the roof rail on the cab roof.
5. Install the Roof Module on the roof rail.
6. Install the SA Module harness and route cables to the various sensors.
7. Route SA module data and power cable towards the cab.
8. Install the display bracket and the RAM mount ball inside the cab.
9. Install the display using a RAM mount arm.
10. Install the main data harness and route cables to roof module and power connector.

Note: Instructions for connecting the vehicle kit cables to the display can be found in the display owner's manual.

11. Connect the main harness to the display harness.
12. Connect the main harness to the SA Module harness.
13. Verify all connectors are properly coupled and secured.
14. Power ON the AutoSteer system.
15. Calibrate the vehicle.
16. Tune the vehicle.
17. Verify the system has been installed properly and operates satisfactorily.

Kit Overview

Note: All the John Deere AutoTrac series vehicles listed on the front cover share the same top-level AutoSteer installation kit PN: 188-0001-01.

AutoSteer Kit Assemblies

Figure 1-1 AutoSteer Kit Components (PN: 188-0001-01)

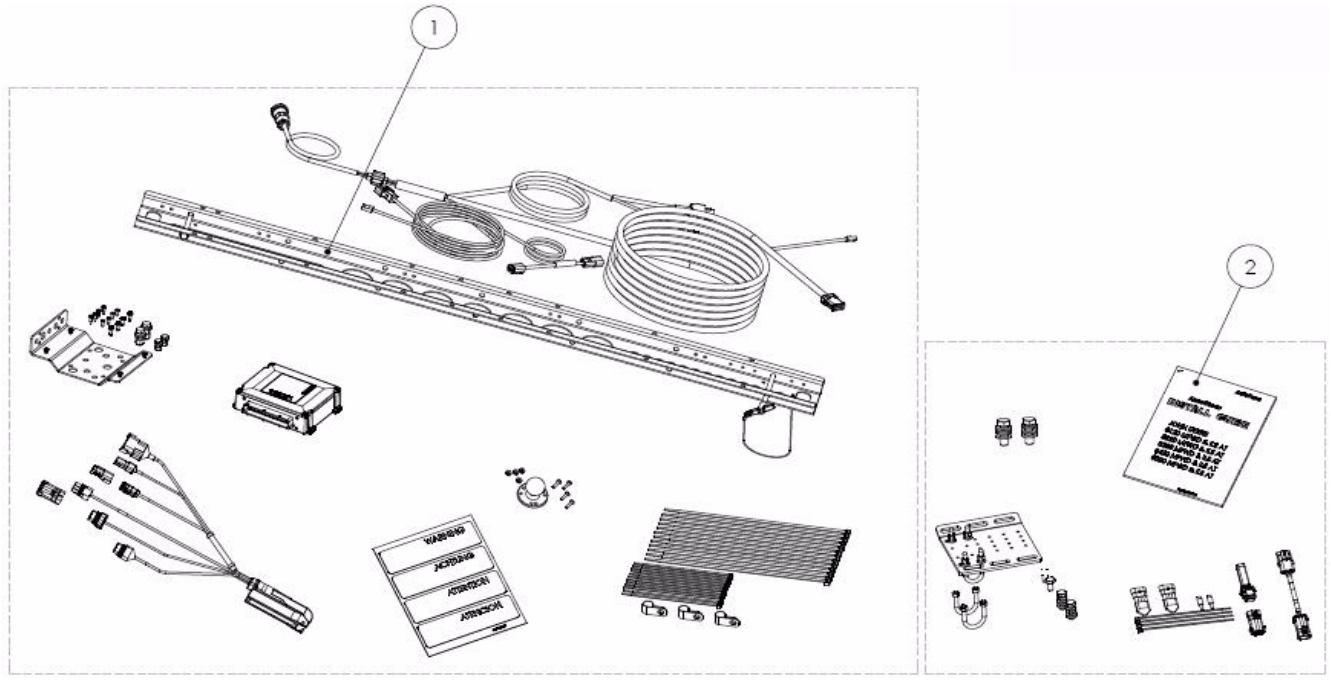


Table 1-1 Installation Kit Components (PN: 188-0001-01)

Item	Component	Part Number
1.	AutoTrac Installation Kit	153-0002-01
2.	Display Bracket Kit	152-0001-01

AutoSteer Installation Kit

Figure 1-2 AutoSteer Installation Kit Components (153-0002-01)

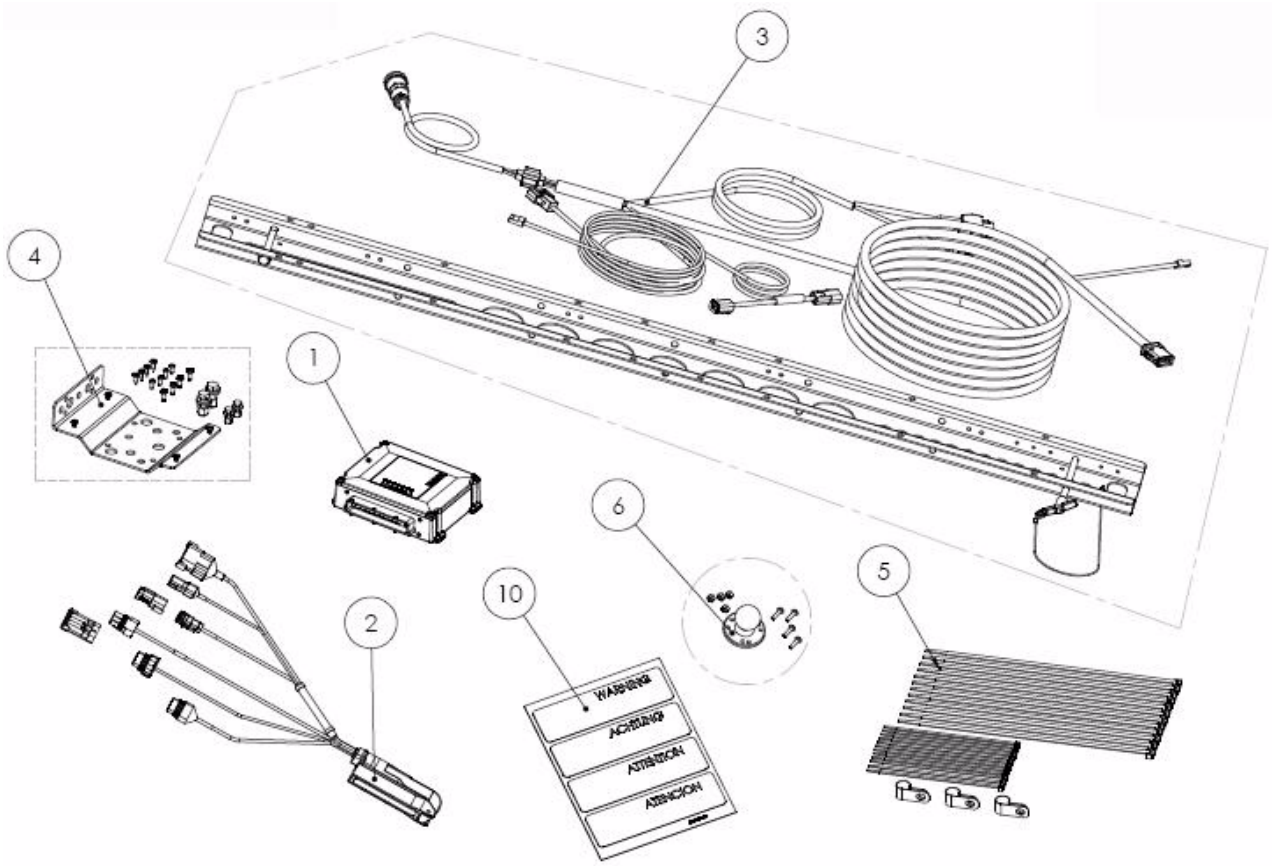


Table 1-2 AutoSteer Kit Components (PN: 153-0002-01)

Item	Component	Part Number
1.	SA Module	200-0206-01
2.	SAM Harness	201-0240-02
3.	Common Installation Kit	200-0497-02
4.	SA Module Bracket Assembly	200-0190-01
5.	Mounting Hardware	200-0076-01
6.	Display Mounting Base Assembly	200-0508-01
10.	Warning Labels	603-0074-01

Bracket Kit

Figure 1-3 Bracket Kit Components (PN: 152-0001-01)

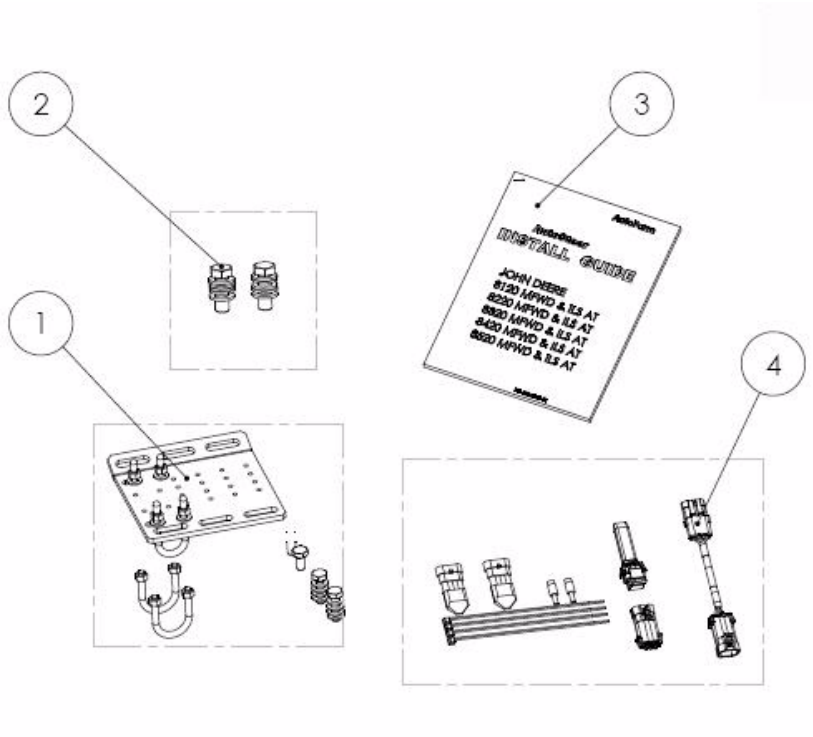


Table 1-3 Bracket Kit Components (PN: 152-0001-01)

Item	Component	Part Number
1.	Display Bracket	200-0469-02
2.	Roof Module Bolt Kit	200-0238-01
3.	Installation Manual	602-0189-01
4.	Termination Kit	200-0313-03

Termination Kit

Figure 1-4 Termination Kit Components (PN: 200-0313-03)

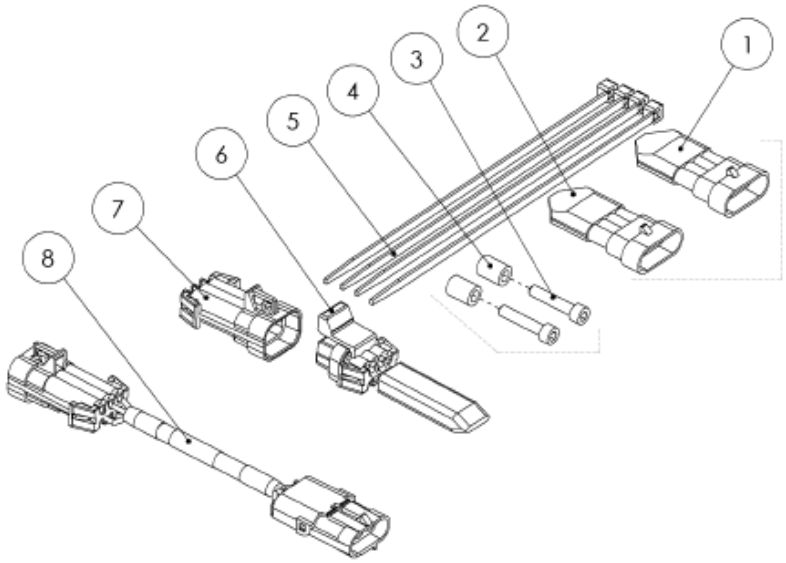
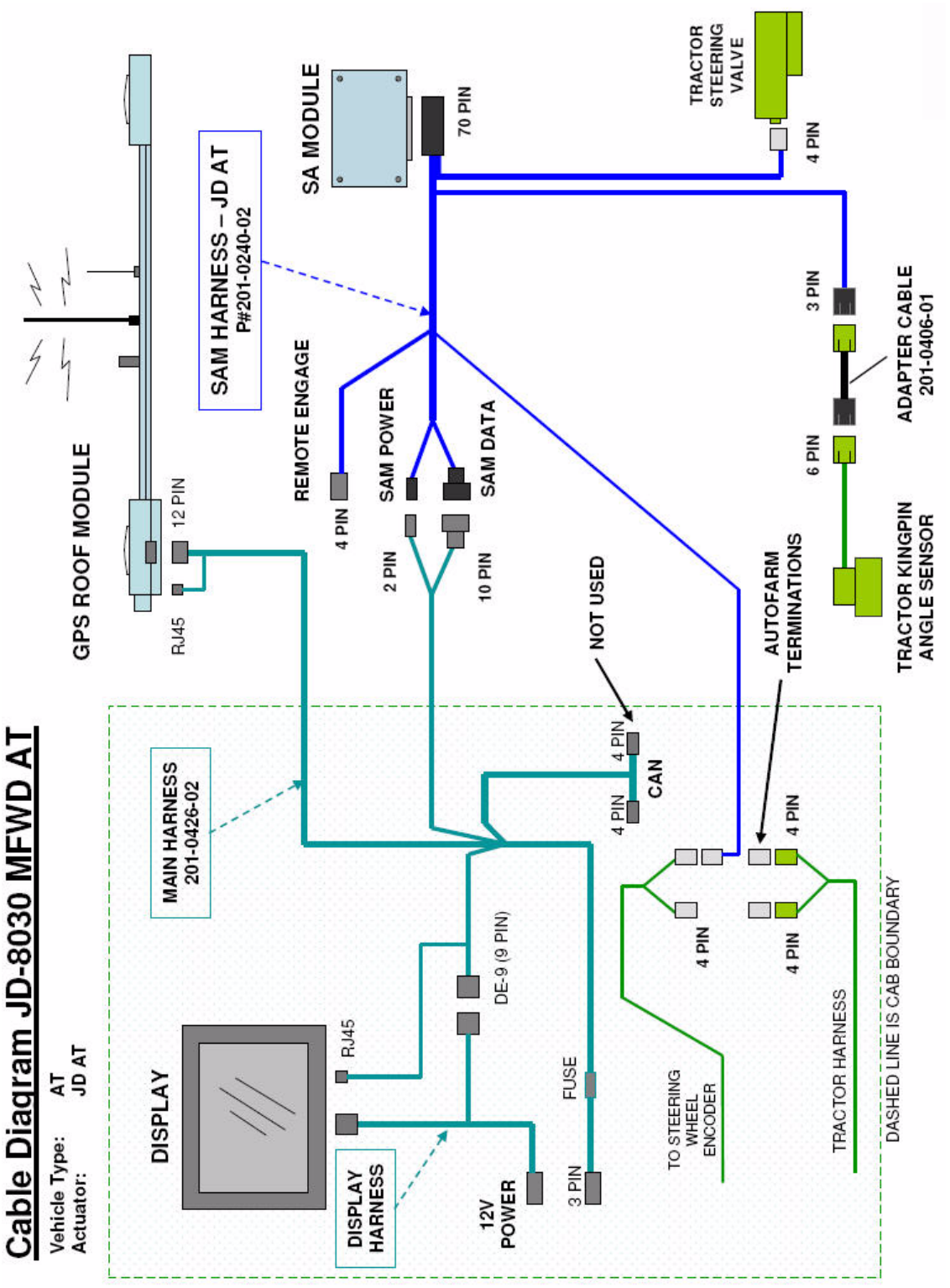


Table 1-4 Termination Kit Components (PN: 200-0313-03)

Item	Component	Part Number
1.	Steering Encoder Terminator Plug (High)	201-0241-01
2.	Steering Encoder Terminator Plug (Low)	201-0242-01
3.	Flow Meter Spacer Screws	500-0013-01
4.	Flow Meter Spacers	500-0214-01
5.	Cable Ties	500-0015-01
6.	Cable Terminator	201-0356-01
7.	Dummy Connector	201-0357-01
8.	SAM Harness Kingpin Adapter Cable	201-0406-01

Cable Diagram



SA Module Installation

This **SA Module Installation** chapter contains information in the following sections:

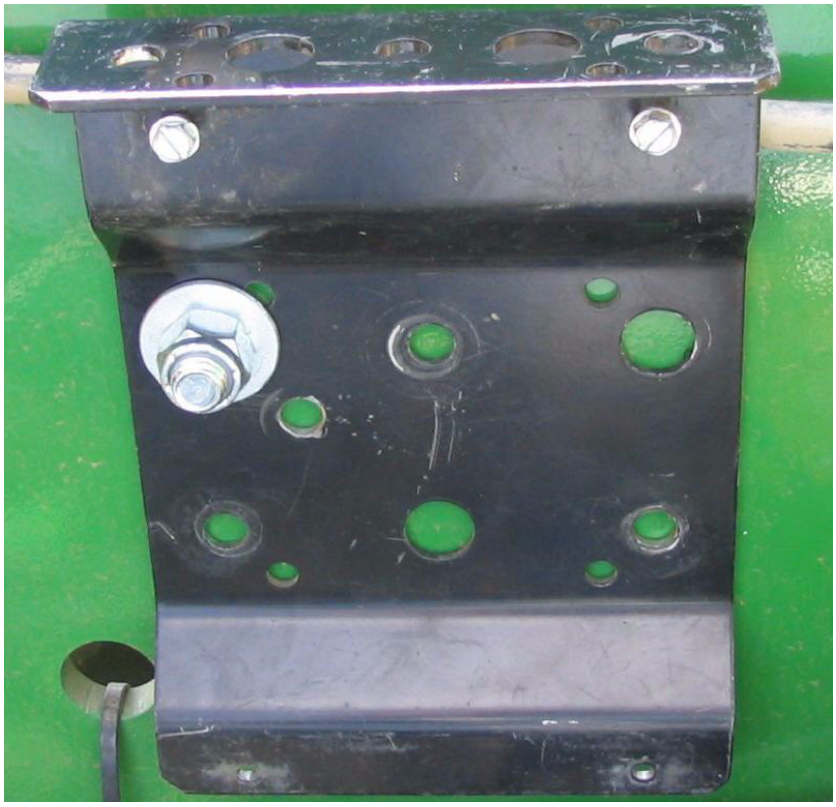
- *Mount the SA Module Bracket*
- *Mount the SA Module*

Mount the SA Module Bracket

Note: The SA Module may be installed under the cab or other alternative positions.

1. Mount the bracket in a protected position. See *Figure 2-1*.

Figure 2-1 SA Module Mounting Location



Mount the SA Module

2. Mount the SA Module to the bracket and secure using four Phillips screws. See *Figure 2-2*.

Note: *Figure 2-3* and *Figure 2-4* show the correct and incorrect SA Module installation orientation.

Figure 2-2 SA Module Installed (shown with SA Module connector)

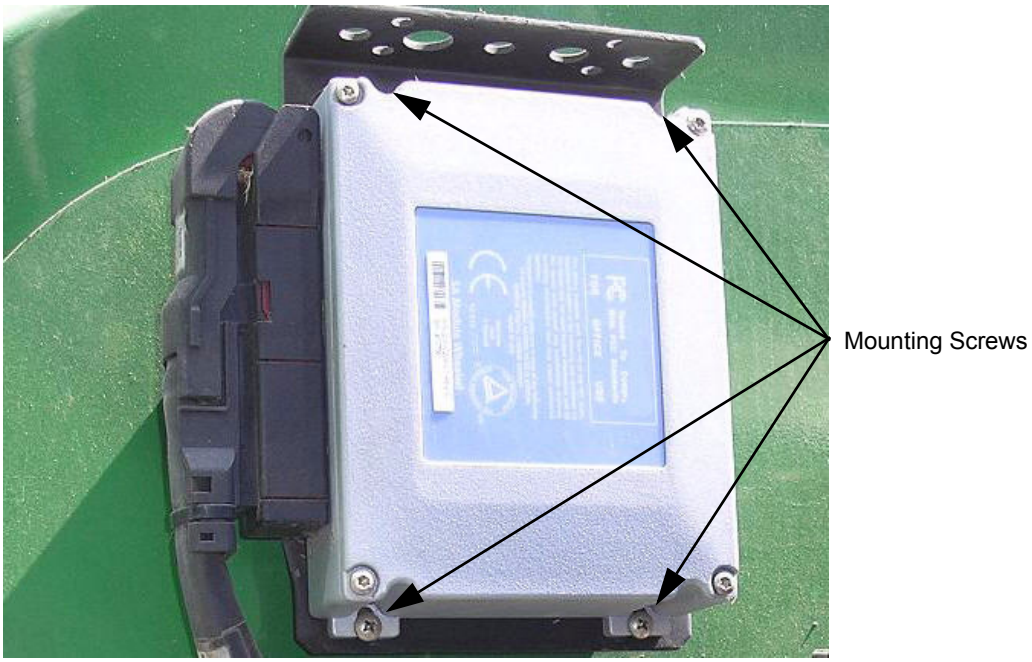


Figure 2-3 Correct SA Module Orientation

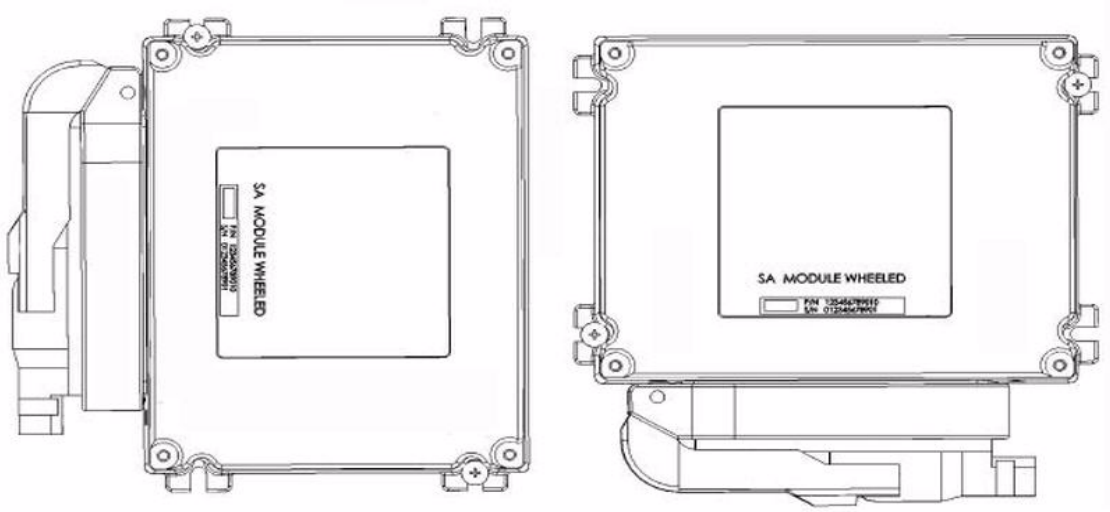
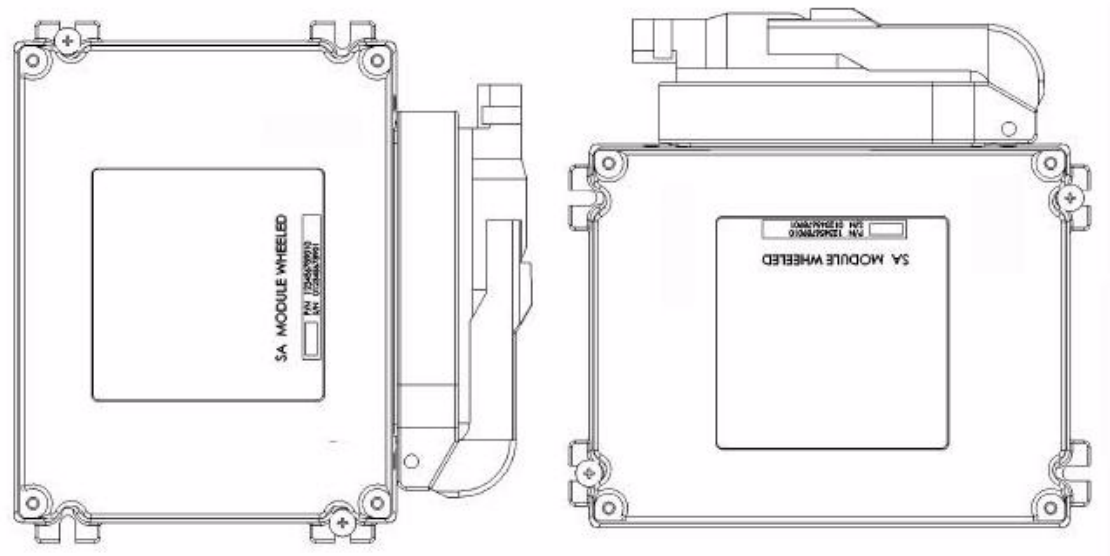


Figure 2-4 Incorrect SA Module Orientation



Wheel Angle Sensor

This **Wheel Angle Sensor** chapter provides the information necessary to identify the type of wheel angle sensing hardware implemented on your vehicle and the proper installation procedure within the following sections:

- *Identifying Wheel Angle Sensing Hardware*
- *AutoSteer JD-8020/8030 MFWD Wheel Angle Sensor Installation*
- *AutoSteer JD-8020/8030 ILS Wheel Angle Sensor Installation*
- *John Deere 8020 ILS Wheel Angle Sensor Installation Verification*
- *AutoSteer JD-7720/7820/7920/7730/7830/7930 Wheel Angle Sensor Installation*
- *Flow Meter Spacer Installation*

The John Deere AutoTrac ready vehicle may have one of the following wheel angle sensor systems:

- A factory installed Kingpin Sensor
- A power steering line flow meter

Note: The Wheel Angle Sensor is optional equipment and is not provided with the installation kit. The Wheel Angle Sensor installation instructions are provided for special installations, when required.

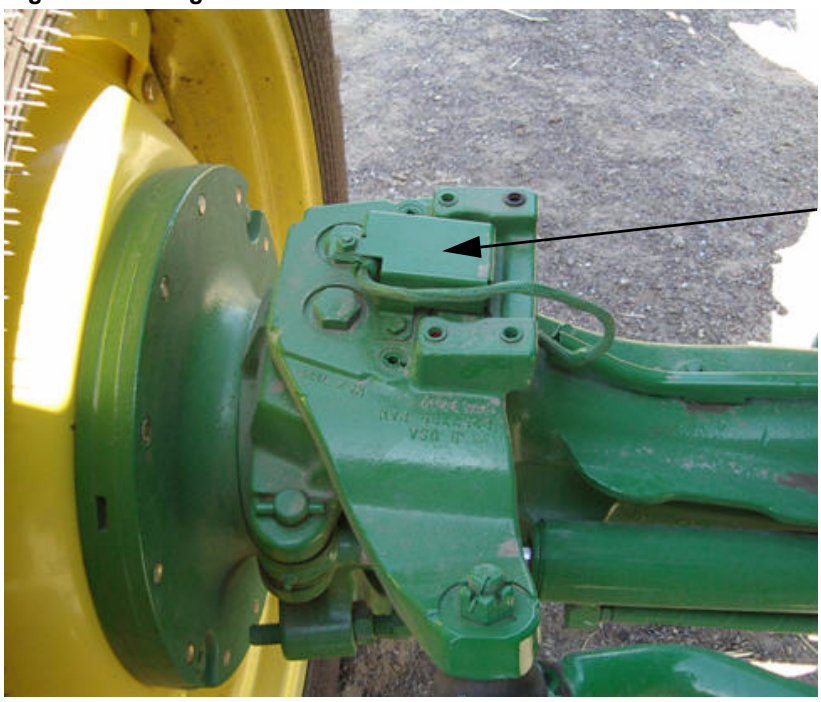
Note: If your vehicle has a flow meter you may install the AutoSteer wheel angle sensor. If the vehicle has a kingpin sensor you may connect the AutoSteer system to it using the provided adapter.

Note: Some older JD-8020 series tractors and also current JD-8030 ILS tractors do not have the factory Kingpin sensor because they used a flow-meter for measuring the wheel position, in which case the AutoSteer wheel angle sensor may be used.

Identifying Wheel Angle Sensing Hardware

1. Look at the left king pin to find the kingpin sensor. See *Figure 3-1*.

Figure 3-1 King Pin Sensor



2. Proceed to the *Connecting the Kingpin Sensor* section, if your vehicle has a kingpin sensor.
3. Look for the steering line flow meter. Typically mounted near the air filter.

Note: The exact position of the steering flow meter and steering valve may vary depending upon the vehicle series. *Figure 3-2*. through *Figure 3-4* show the flow meter locations on various John Deere models.

Note: All JD-8020 MFWD/ILS, JD-8030 ILS and the JD-7020 vehicles use a flowmeter and do not have a Kingpin sensor.

Figure 3-2 Steering Line Flow Meter Location (On JD-8430 MFWD)

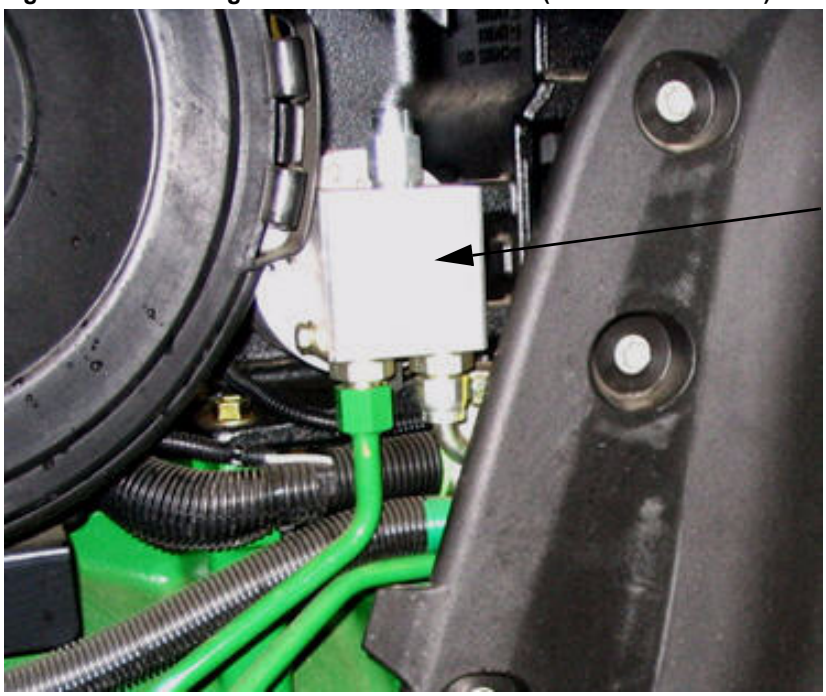


Figure 3-3 JD-8020 ILS Steering Line Flow Meter Location

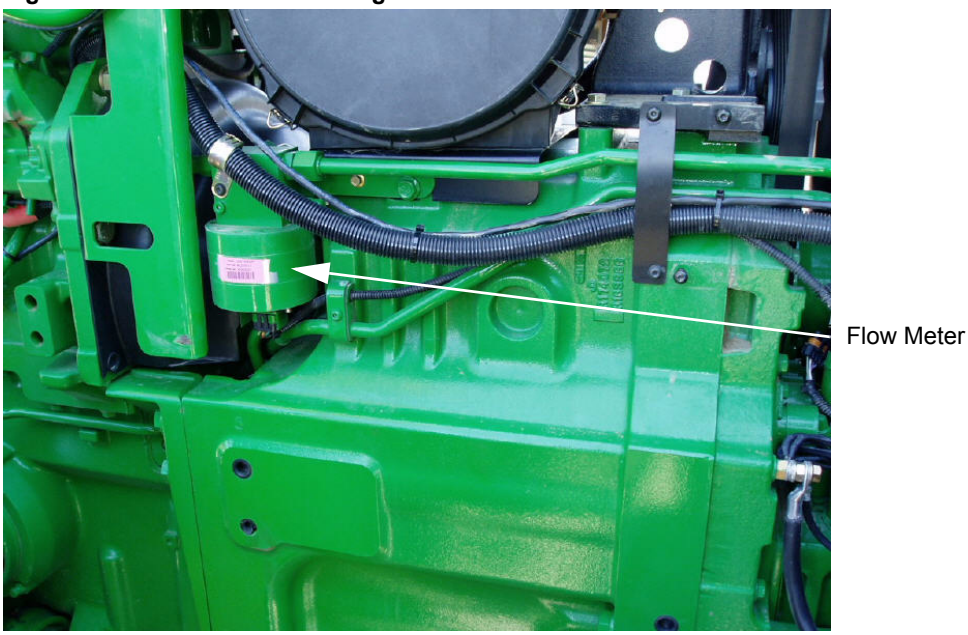
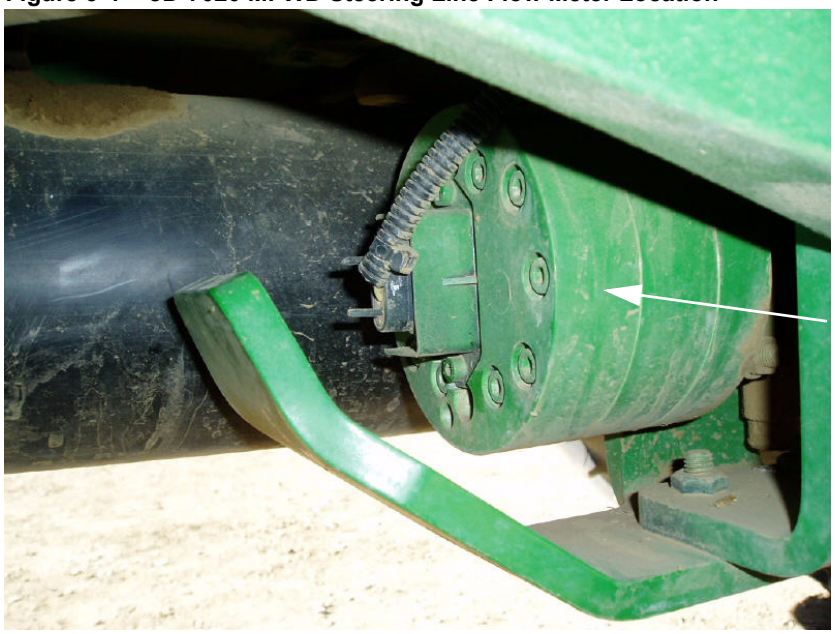


Figure 3-4 JD-7020 MFWD Steering Line Flow Meter Location



4. Proceed to the Wheel Angle Sensor installation procedure if your vehicle has a steering line flow meter.

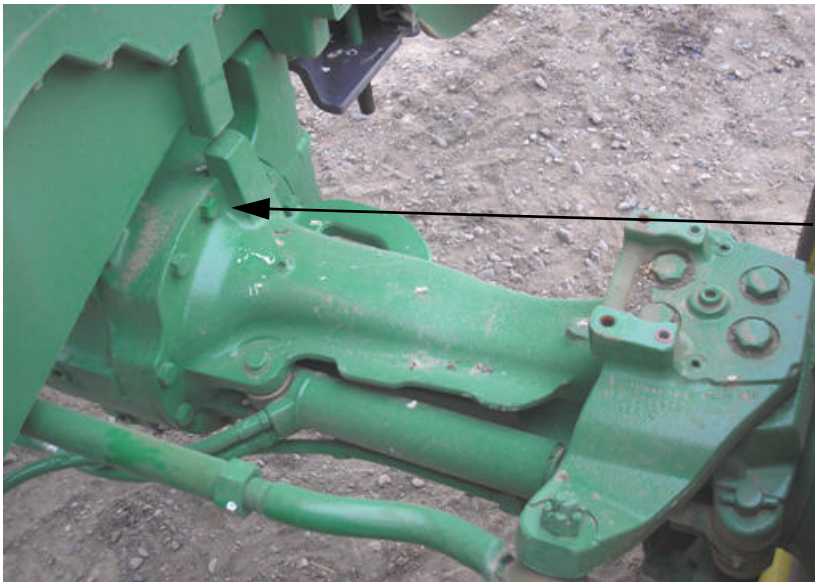
Note: If your vehicle has the steering line flow meter you will also need to perform the *Flow Meter Spacer Installation* procedure.

AutoSteer JD-8020/8030 MFWD Wheel Angle Sensor Installation

Note: Depending upon the equipment present on your vehicle, you may not need to install the AutoSteer wheel angle sensor. Ensure your vehicle requires the AutoSteer wheel angle sensor before beginning the installation. Vehicles with a factory installed Kingpin sensor do not require the additional AutoSteer wheel angle sensor.

1. Identify the differential bolts on the right side of the front axle as shown in *Figure 3-5*.

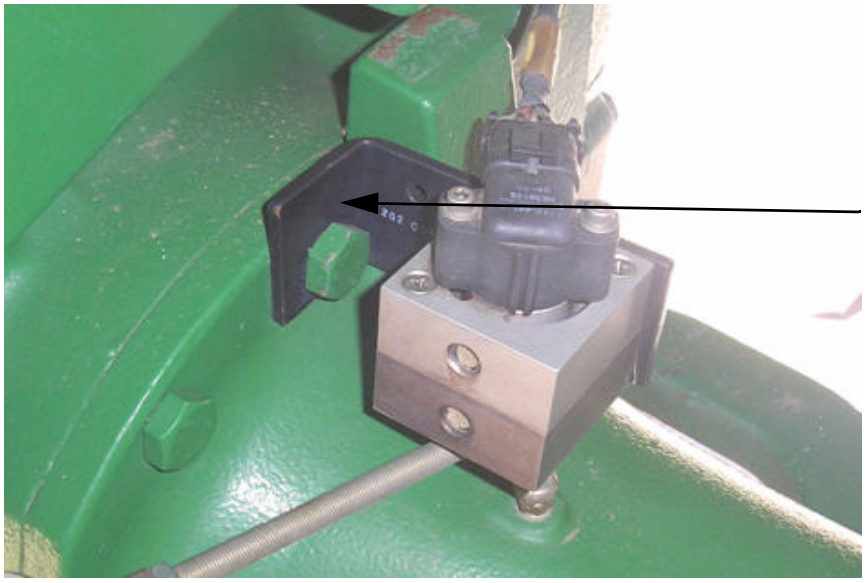
Figure 3-5 Differential Bolts



2. Install the wheel angle sensor “L” bracket on the right side of the front axle in the position shown in *Figure 3-6*.

3. Secure with an existing bolt on the differential housing.

Figure 3-6 Wheel Angle Sensor Bracket Mounted



Note: The threaded linkage rods must be cut to the correct lengths before final assembly. The linkage rods are shown assembled in *Figure 3-6*. See *Table 3-1* and *Table 3-2* for the cut and assembled linkage rod lengths.

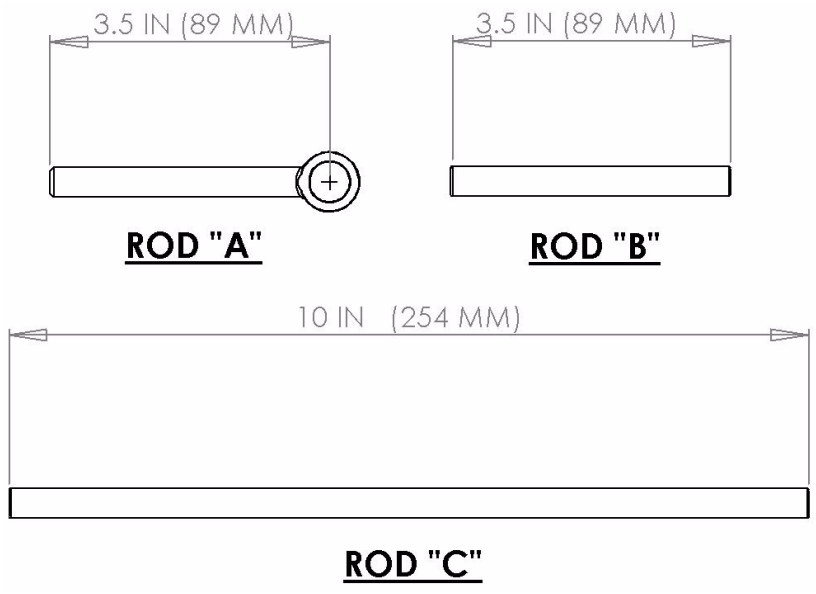
4. Measure and mark the two rods for cutting, according to the length shown in *Table 3-1*.

Note: *Figure 3-7* shows the measurement points used to properly cut the linkage rods.

Table 3-1 Linkage Rod Cut Lengths

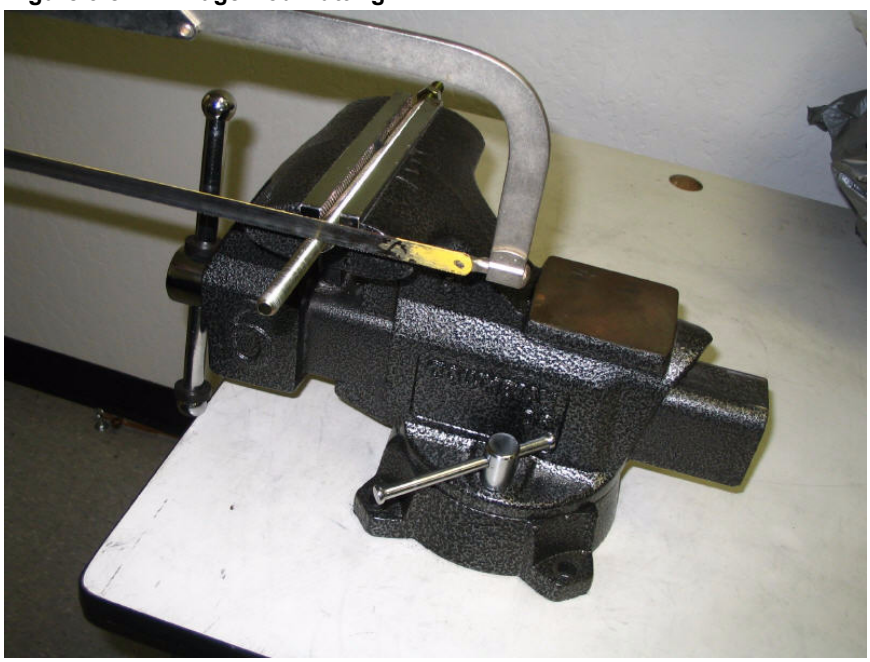
Item	Length
Rod A	3.5 inches (89 mm)
Rod B	3.5 inches (89 mm)
Rod C	10.0 inches (254 mm)

Figure 3-7 Linkage Rod Cut Length Measurement Points



5. Use a hack saw to cut the linkage rod to length while it is held in a bench vise. See *Figure 3-8*.

Figure 3-8 Linkage Rod Cutting



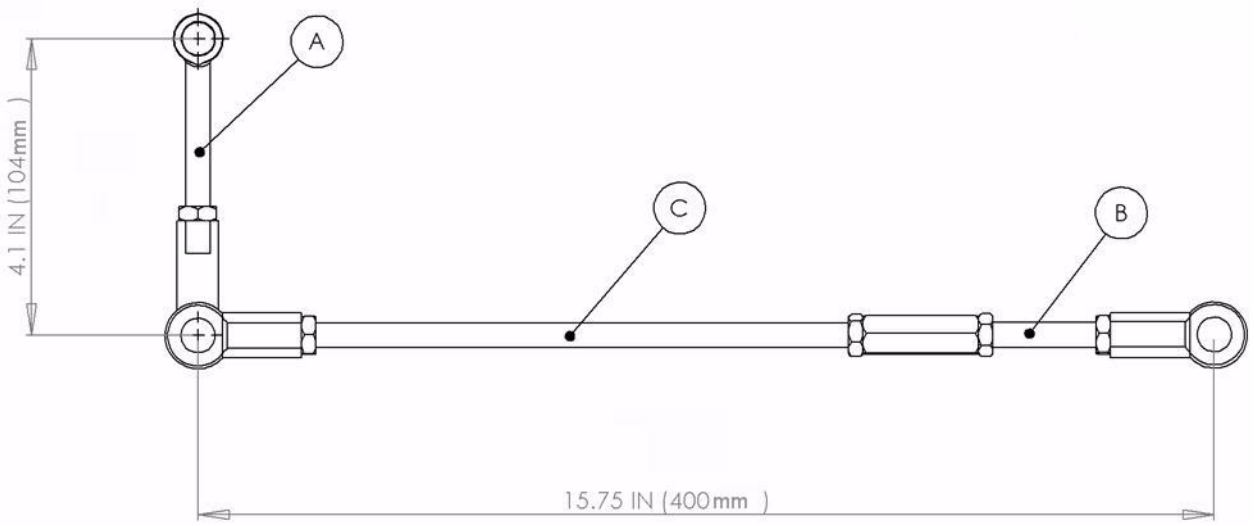
Note: The “after-assembly” center-to-center lengths of each linkage rod are shown in *Table 3-2*. *Figure 3-9* shows the measurement points for the assembled linkage rods.

Table 3-2 Assembled Linkage Rod Length

Item	Length
Rod A	4.1 inches (104 mm)
Rod B + Rod C	15.75 inches (400 mm)

Note: Rod B and Rod C are connected using the union nut and jam nuts included in your kit.

Figure 3-9 Linkage Rod (Assembled) Measurement Points



Note: The threaded rods must be cut to the correct lengths before final assembly.

6. Install the linkage bracket on the right side knuckle in the position shown in *Figure 3-10*.

Note: You may secure using two M12 hex bolts on the existing axle threads or you may secure using the smaller hex bolts with nuts.

Figure 3-10 Linkage Bracket

7. Install the threaded linkage rods as shown.

Note: The threaded rods must be cut to the correct lengths before installing on the vehicle. See cutting instructions starting with *Step 4.* for details.

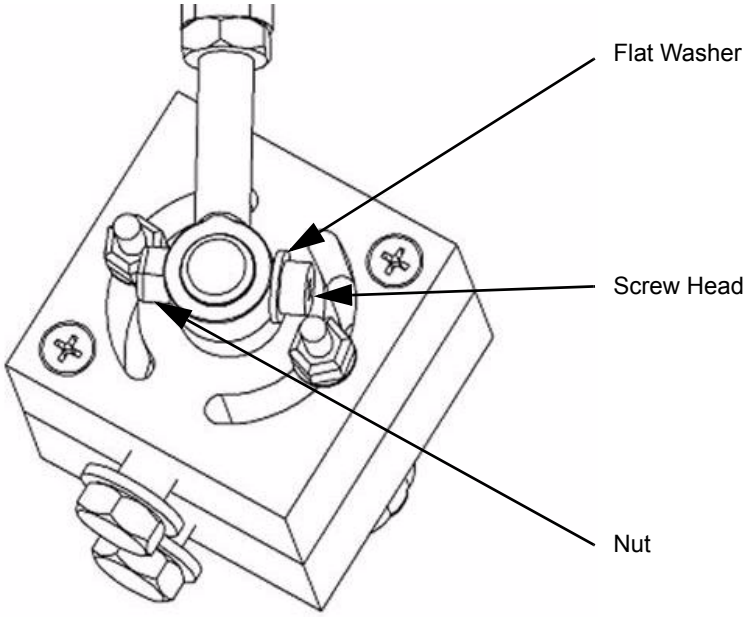
8. Install the short linkage arm on the wheel angle sensor shaft.
9. Install the long threaded linkage on the tie rod bracket using a ball joint.

Note: The long linkage rod is assembled from the two threaded rods plus a union nut and jam nuts.

10. Tighten all jam nuts on the threaded rods.
11. Tighten the bolt securing the two linkage rods together.
12. Tighten the two screws that secure the potentiometer on the wheel angle sensor, after final adjustments. Use a 5/32” hex key and a 3/8” wrench.

13. Ensure a flat washer is placed under the screw head when attaching the linkage rod to the sensor shaft. See *Figure 3-11*.

Figure 3-11 Washer on Shaft Screw

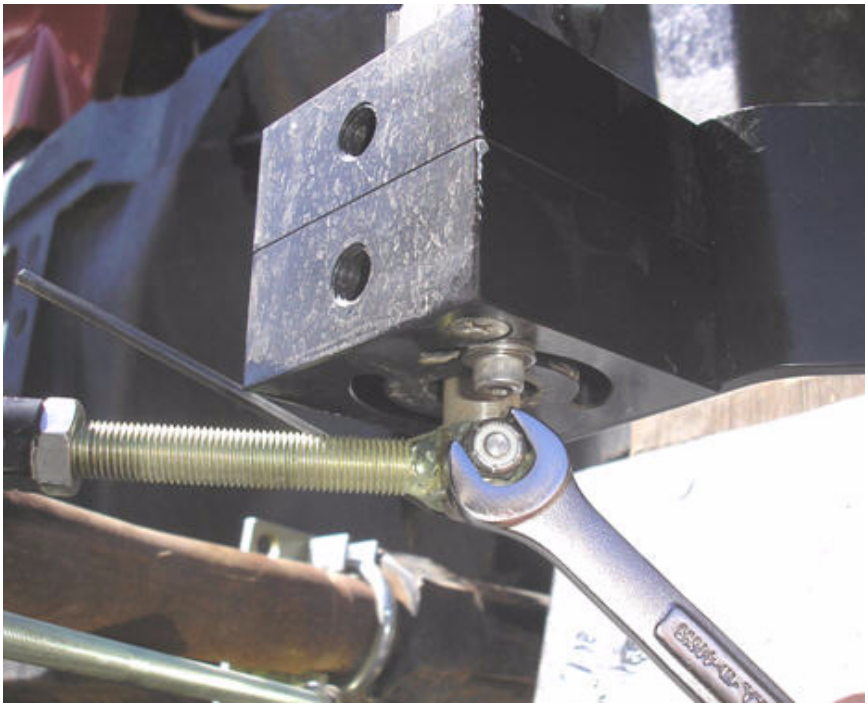


Note: The washer should be on the screw head side and not the nut side of the assembly.

Note: Do not turn the front wheels or drive the vehicle before the wheel angle sensor has been fully adjusted using the AutoSteer Calibration screens. The potentiometer can only rotate a maximum of 180 degrees and if it is rotated beyond its mechanical stops, it will be permanently damaged.

14. Tighten the screw on the sensor shaft. Use a 1/8” hex key and a 3/8” wrench. See *Figure 3-12*.

Figure 3-12 Wheel Angle Sensor Shaft Tightening



15. Secure the cable along the bracket top using cable ties, after the SAM harness is installed.

Note: The AutoSteer system must be fully functional before you can perform *Step 16.*

---

16. Adjust the arm length until you get approximately 3000 counts from the wheel angle sensor.

Note: If necessary, shorten Rod A to increase the wheel angle sensor counts.

---

17. Tighten all jam nuts and fasteners.

18. *Figure 3-13* shows the completed wheel angle sensor installation.

Figure 3-13 Wheel Angle Sensor Installed

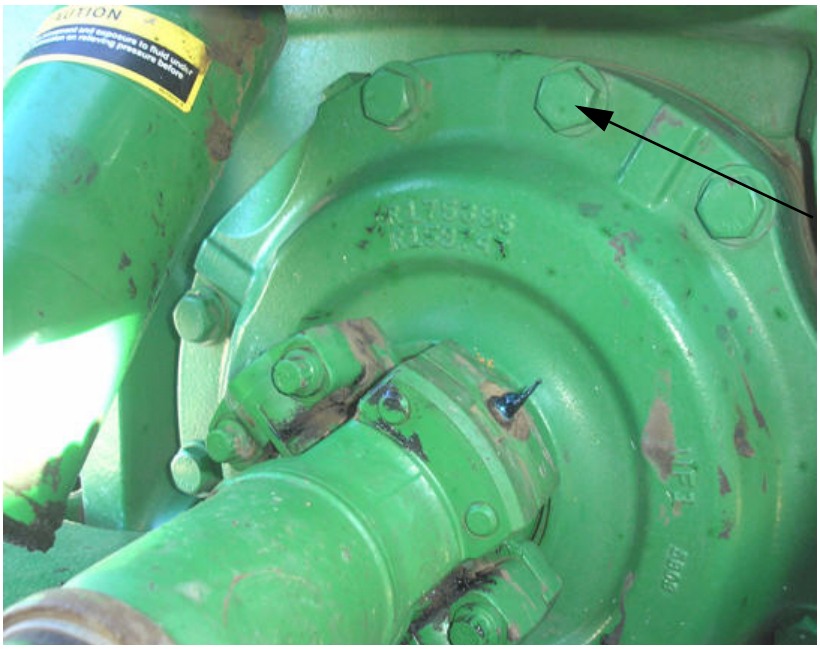
AutoSteer JD-8020/8030 ILS Wheel Angle Sensor Installation

1. Identify the bolts that secure the left drive shaft on the front axle. The bolt shown in *Figure 3-14* is used to secure the AutoSteer wheel angle sensor.

Note: The bolt is the first one to the right of the top of the driveshaft cover. See *Figure 3-14*.

Note: Mounting the bracket on the wrong bolt will result in improper linkage geometry and may cause linkage interference or linkage over-extension.

Figure 3-14 Wheel Angle Sensor Bracket Drive Shaft Bolt



2. Mount the Wheel Angle Sensor bracket. Secure with an existing bolt on the differential housing. See *Figure 3-15*.

Note: Torque the differential housing bolt to 229 Ft.-Lbs (310 Nm).

3. Install the wheel angle sensor on the bracket as shown in *Figure 3-15*.

Note: The threaded linkage rods must be cut and adjusted to the correct lengths before final assembly. The linkage rods are shown assembled in *Figure 3-17*. See *Table 3-3* and *Table 3-4* for the cut and assembled linkage rod lengths.

Figure 3-15 Wheel Angle Sensor Bracket Mounted

4. Install the linkage bracket on the tie rod in the position shown *Figure 3-16*. Torque the bolts to 90 Ft. Lbs. (125 Nm).
5. Install the pre-assembled linkages and secure at both ends.

Note: The threaded rods can be cut to the correct lengths and the linkage rods assembled prior to attaching the linkage rod and wheel angle sensor to their brackets.

Figure 3-16 Linkage Bracket Mounted

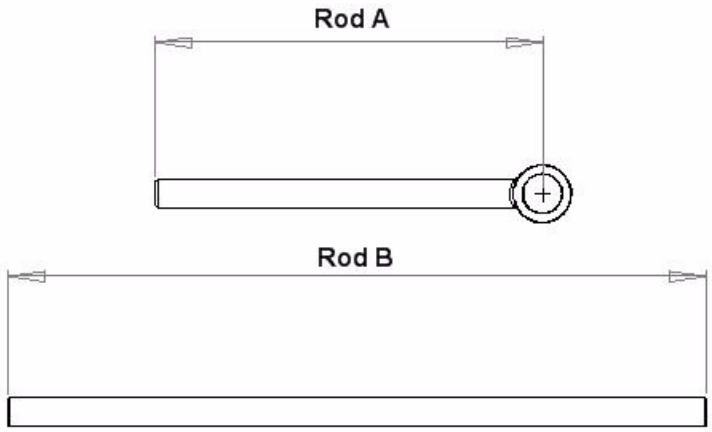
6. Measure and mark the two rods for cutting, according to the length shown in *Table 3-3*.

Note: *Figure 3-17* shows the measurement points used to properly cut the linkage rods.

Table 3-3 Linkage Rod Cut Lengths

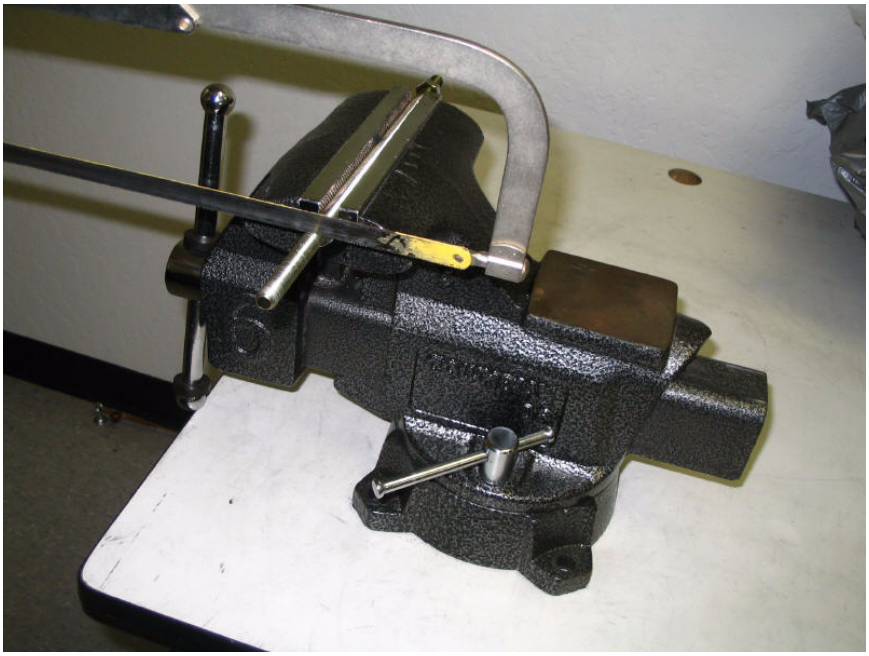
Item	Length
Rod A	5.0 inches (127 mm)
Rod B	9.75 inches (248 mm)

Figure 3-17 Linkage Rod Cut Length Measurement Points



7. Use a hack saw to cut the linkage rod to length while it is held in a bench vise. See *Figure 3-18*.

Figure 3-18 Linkage Rod Cutting

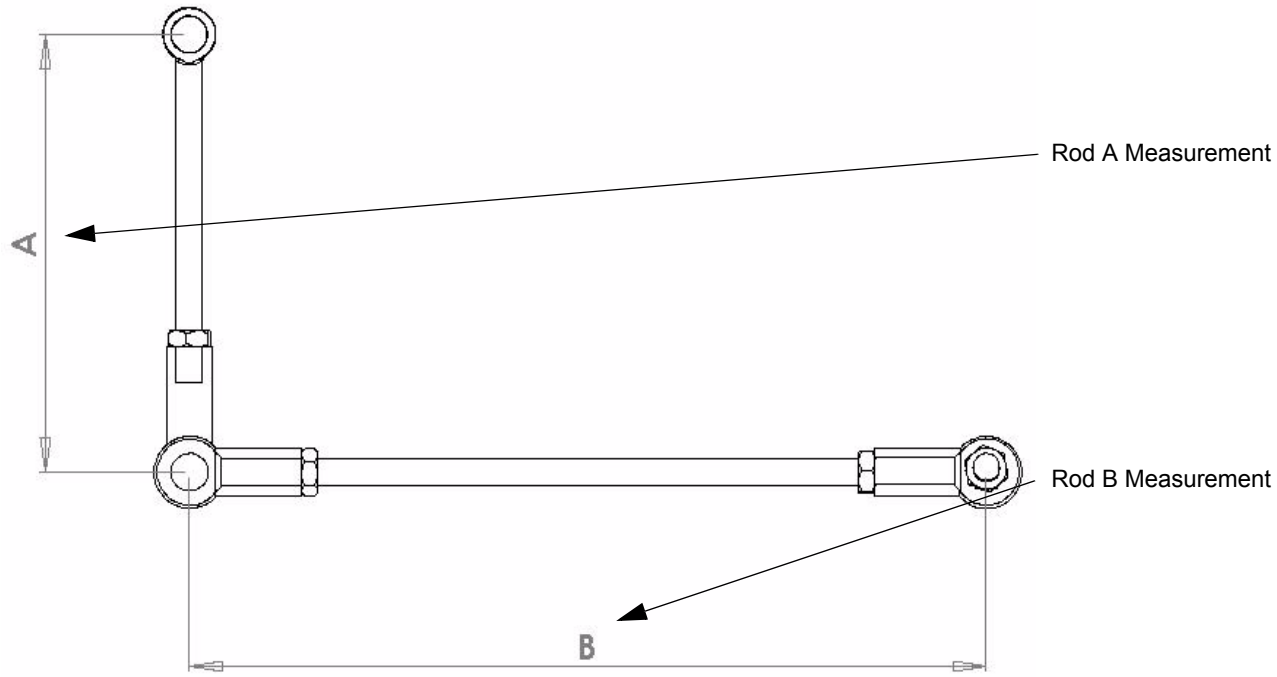


Note: The "after-assembly" center-to-center lengths of each linkage rod are shown in *Table 3-4*. *Figure 3-19* shows the measurement points for the assembled linkage rods.

Table 3-4 Assembled Linkage Rod Length

Item	Length
Rod A	5.9 inches (150 mm)
Rod B	11.5 inches (292 mm)

Figure 3-19 Linkage Rod (Assembled) Measurement Points



Note: The threaded rods must be cut to the correct lengths before final assembly.

8. Install the wheel angle sensor on the bracket end, as shown in *Figure 3-21*.

9. Install the bracket on the right-side tie rod as shown in *Figure 3-20*.

Figure 3-20 Linkage Bracket Mounted

10. Install the short linkage arm on the wheel angle sensor shaft. See *Figure 3-21*.

11. Secure the linkage rod on the Wheel Angle Sensor shaft using the screw and nut provided.

12. Install the ball joint on the end of the arm in the position. See *Figure 3-21*.

Note: The ball joint must be pointing upwards as shown *Figure 3-21*.

Figure 3-21 Connecting Short Linkage Rod to the Wheel Angle Sensor

13. Install the long threaded linkage on the tie rod bracket using a ball joint.

14. The ball joints on both ends will accommodate the suspension movement and steering movement.

Figure 3-22 Connecting Long Linkage Rod to Tie Rod Bracket

15. Tighten all jam nuts on the threaded rods.

16. Tighten the bolt securing the two linkage rods together.

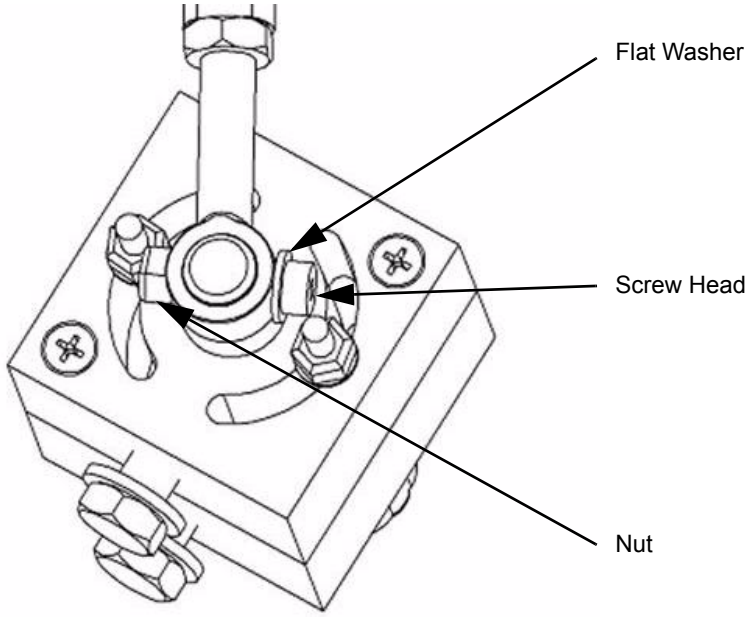
17. Tighten the two screws that secure the potentiometer on the wheel angle sensor, after final adjustments. Use a 5/32” hex key and a 3/8” wrench.

Note: Do not turn the front wheels or drive the tractor before the wheel angle sensor has been adjusted using the AutoSteer Calibration screens. The potentiometer can only rotate a maximum of 180 degrees and if it is rotated beyond its mechanical stops, it will be permanently damaged.

---

18. Ensure a flat washer is placed under the screw head when attaching the linkage rod to the sensor shaft. See *Figure 3-23*.

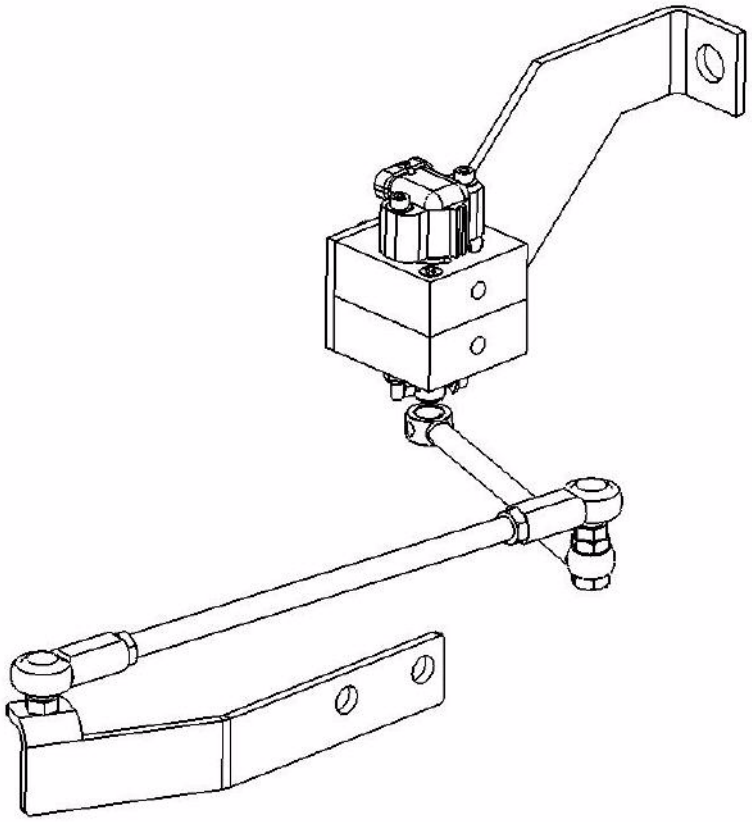
Figure 3-23 Washer on Shaft Screw



Note: The washer should be on the screw head side and not the nut side of the assembly.

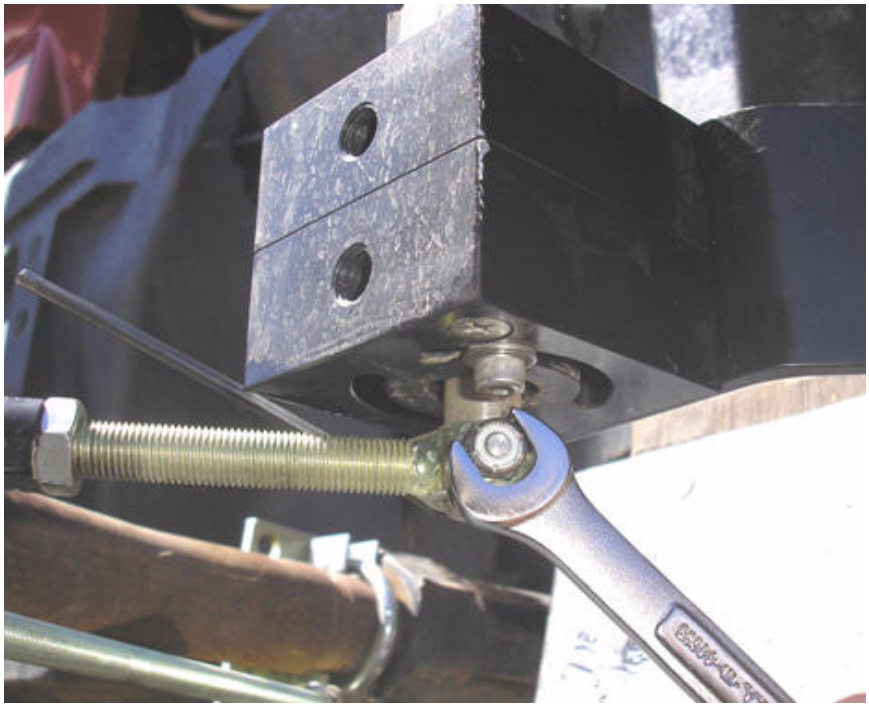
Note: *Figure 3-24* shows a line drawing of the fully assembled Wheel Angle Sensor.

Figure 3-24 Wheel Angle Sensor Assembly Fully Assembled



19. Tighten the screw on the sensor shaft. Use a 1/8” hex key and a 3/8” wrench. See *Figure 3-25*.

Figure 3-25 Wheel Angle Sensor Shaft Tightening



20. Secure the cable along the bracket top using cable ties, after the SAM harness is installed.

21. Tighten all jam nuts and fasteners.

22. *Figure 3-26* shows the completed wheel angle sensor installation.

Note: The correct linkage rod lengths must be checked by moving the front wheels full left and full right with the front ILS suspension in the maximum top and maximum bottom positions. Refer to the John Deere documentation provided with your vehicle for instructions on raising and lowering the ILS suspension.

Figure 3-26 Wheel Angle Sensor Installed

John Deere 8020 ILS Wheel Angle Sensor Installation Verification

Note: These instructions refer only to the JD-8020 ILS series tractors. Newer JD-8030 ILS series vehicles have a slightly different procedure for moving the ILS suspension. Refer to your tractor owners manual or service manual for details.

After installing the AutoSteer wheel angle sensor, you must check the free movement of the linkages by moving the front wheels from full left to full right with the tractor's ILS suspension in the level position, upper position and lower position.

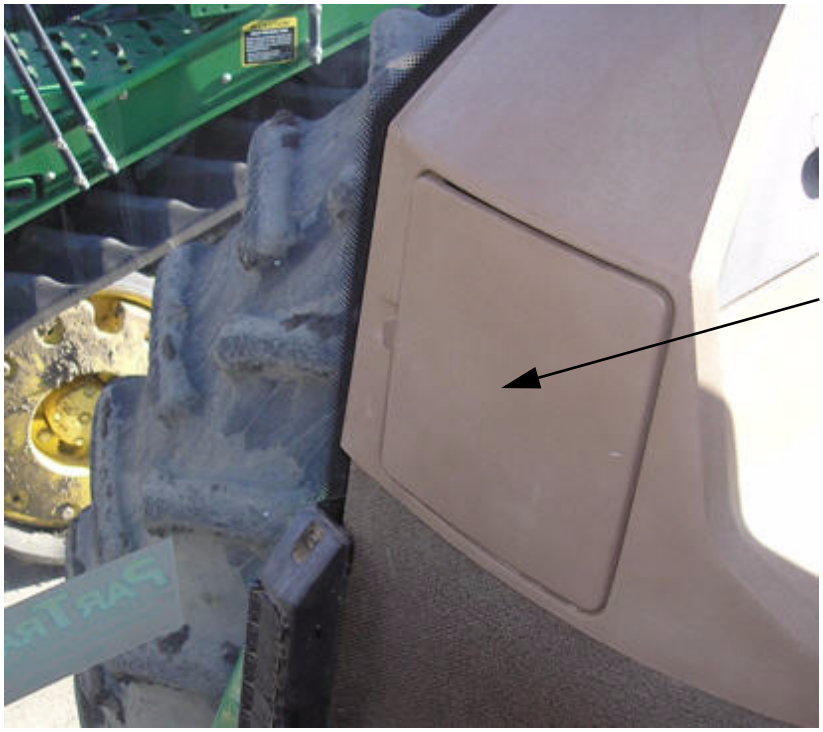
Note: The Wheel Angle Sensor must be electrically connected to the AutoSteer system before you can begin this procedure. See the *Wheel Angle Sensor Connection* section of the *Connecting System Cables* chapter for instructions on connecting the Wheel Angle Sensor to the AutoSteer SAM Harness.

The following instructions provide the procedure for moving the suspension up and down from within the cab. These instructions are provided for reference. We recommend that you refer to your tractor owners manual or service manual for full ILS suspension movement details.

1. Turn off the engine. Ensure the headlight, high beam and hazard light switches are turned off.
2. Identify the fuse box cover on the right side of the cab. See *Figure 3-27*.

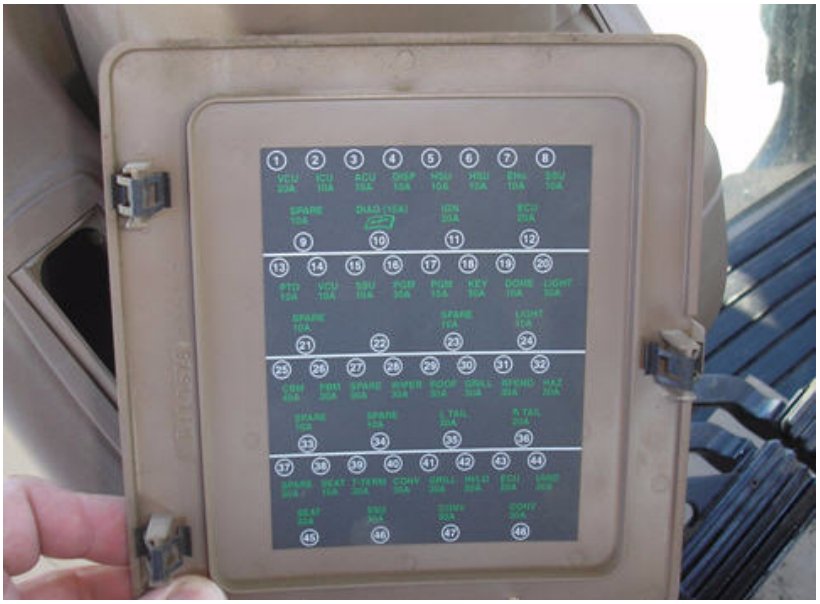
3. Remove the fuse box cover. See *Figure 3-27*.

Figure 3-27 Fuse Box Cover



Note: The fuse box cover has a diagram that helps identify all the fuses. See *Figure 3-28*.

Figure 3-28 Fuse Box Map

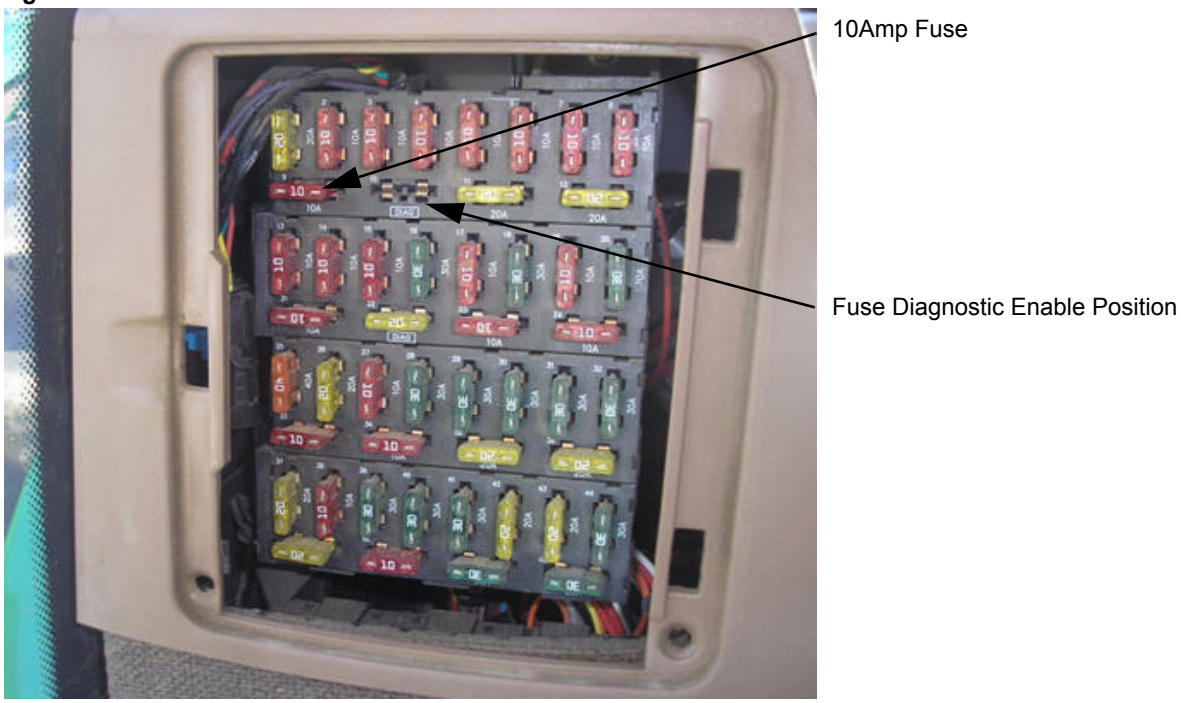


4. Remove the 10A fuse shown in *Figure 3-29*.

Note: The engine and lights must be turned off before you move the fuse. The procedure will not work and will not enable the ILS suspension movement if you move the fuse with the engine running or the lights turned on.

Note: Moving the fuse to the DIAG position puts the tractor screen into the diagnostic mode and enables the front suspension up-down movement.

Figure 3-29 Fuse Removal



5. Move the fuse to the fuse position identified as “DIAG.”

Figure 3-30 Fuse in the Diagnostic Position

6. Turn on the engine with the vehicle transmission in park.
7. “**DIA**” will appear on the screen as shown in *Figure 3-31*.

Figure 3-31 Diagnostic Status Message on Screen

8. Lift the flasher lever upwards on the left side of the steering wheel until the display changes to “**EHO**”. See *Figure 3-32*.

Note: The display moves through several different messages before reaching the "**EHO**" screen. You may move the lever in steps to scroll through the display.

Figure 3-32 Flasher Lever Diagnostic Display Control

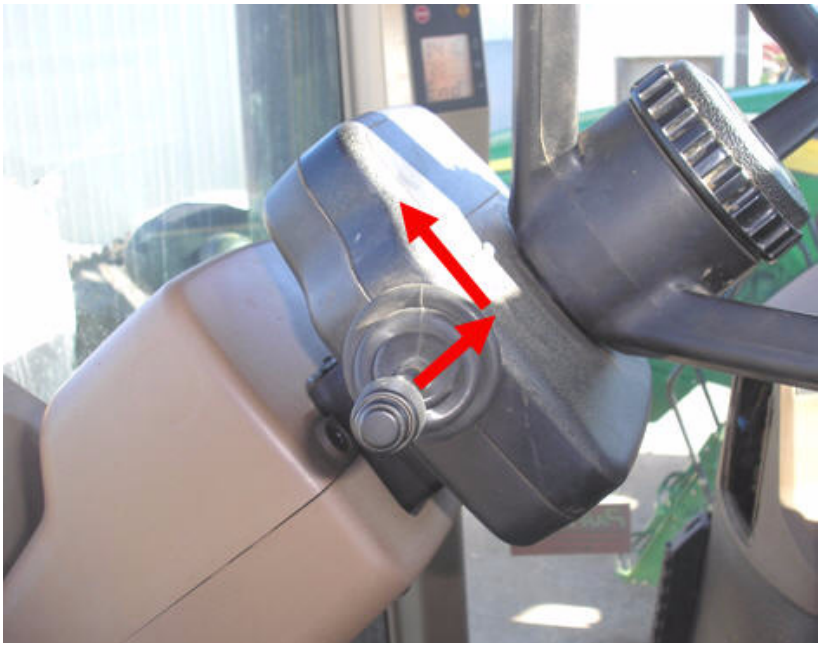
9. **EHO** is displayed on the bottom and " - - " appears in the middle of the screen. See *Figure 3-33*.

Figure 3-33 Diagnostic Screen Displaying EHO

10. Pull the flasher lever on the left side towards you then up to scroll through the numbers until “20” is displayed. See *Figure 3-34*.

Note: Moving the lever up increases the number while moving it down decreases the number.

Figure 3-34 Moving Flasher Lever to Change Values



11. In *Figure 3-35,* the number has been changed to “20” and “SC 1” is displayed on the bottom.

Note: SC 1 = Selective Control #1

Figure 3-35 Selective Control 1 Displayed

12. Toggle the red hazard switch once on the right side console to activate the SCV lever for moving the front suspension. See *Figure 3-36.*

Figure 3-36 Hazard Switch SVR Lever Activation

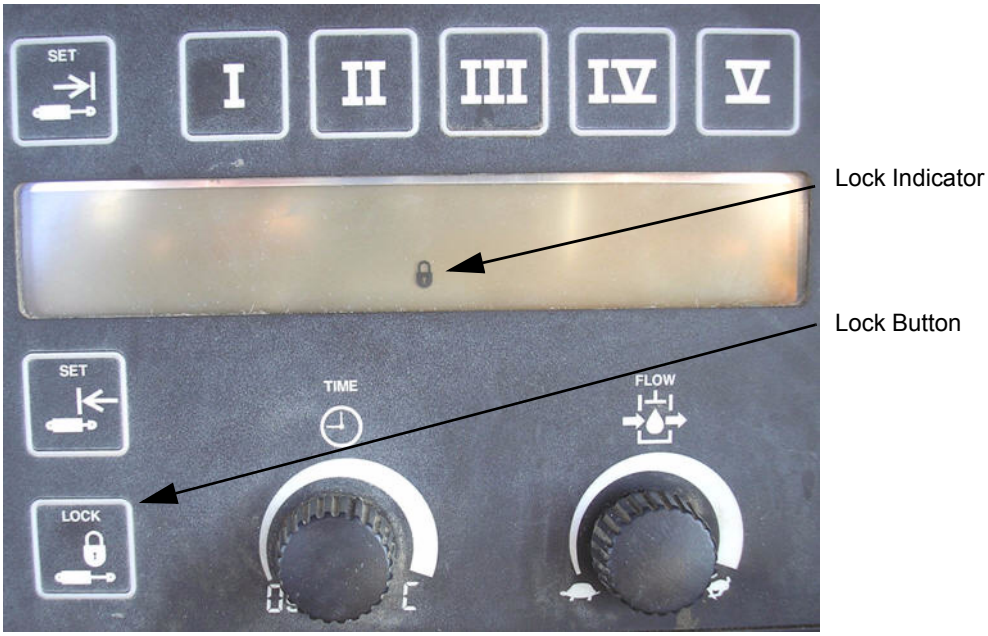
13. Wait a few seconds while the tractor system performs a calibration routine.

Note: The display will show "**END**" when the calibration routine is finished. See *Figure 3-37*. Once "**END**" is displayed, you may move the front ILS suspension up and down. See *Step 14*.

Figure 3-37 Calibration Routine END Status

Note: The display on the right side console should show a small lock after *Step 12.* is completed. The front suspension cannot be moved if the lock does not appear. You may turn the lock ON by pressing the lock button on the panel shown in *Figure 3-38*.

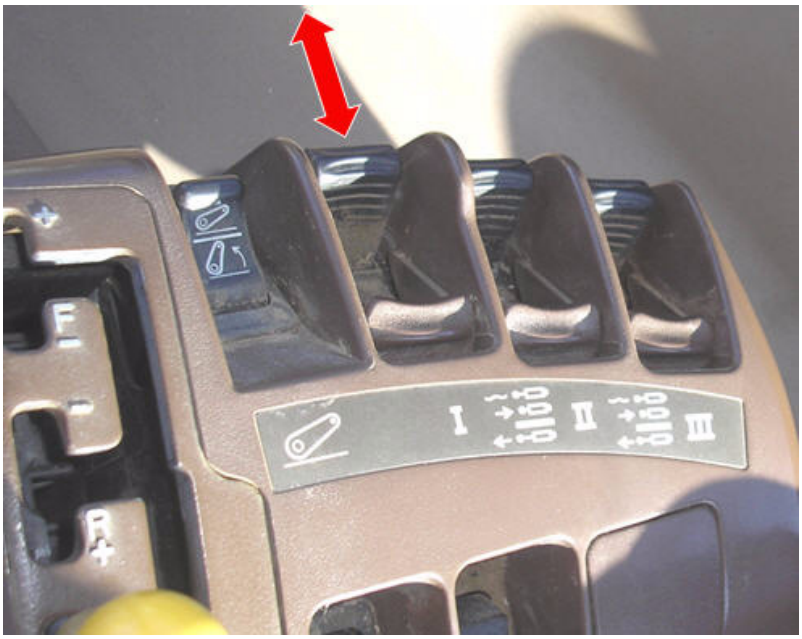
Figure 3-38 Right Side Console Display



14. Move the front ILS suspension up and down by moving the SCV #1 control lever on the armrest. See *Figure 3-39*.

Note: The lever must be pushed until is “clicks” to move the suspension.

Figure 3-39 Arm Rest Control Lever



Note: Forward detent is DOWN and back detent is UP.

Note: The display on the right cab post displays “UP” while the suspension is rising and displays “DN” while the suspension is lowering. When the suspension is not moving it may display “PAU.”

15. Move the suspension to the full DOWN position and slowly turn the wheels full right and then full left while observing the movement of the linkage rods.

Note: The linkage rods should move freely without binding, touching other parts or over extending. *Figure 3-40* and *Figure 3-41* show the Full Down/Full Left and Full Down/Full Right respectively.

16. Adjust the linkage rod lengths as necessary to obtain free movement without interferences.

Figure 3-40 ILS Suspension Full Down and Full Left

Figure 3-41 ILS Suspension Full Down and Full Right

17. Move the suspension to the full UP position and slowly turn the wheels full right and then full left while observing the movement of the linkage rods.

Note: The linkage rods should move freely without binding, touching other parts or over extending. *Figure 3-42* and *Figure 3-43* show the Full Up/Full Left and Full Up/Full Right respectively.

18. Adjust the linkage rod lengths as necessary to obtain free movement without interferences.

Figure 3-42 ILS Suspension Full Up and Full Left

Figure 3-43 ILS Suspension Full Up and Full Right

19. Move the suspension to the mid travel position before exiting the suspension diagnostic mode.

Note: The suspension will be in the middle position when the suspension arms are approximately horizontal.

Note: The ILS suspension may be operated in Automatic mode or it may be turned off if no motion of the front suspension is desired. Refer to your tractor manual for full details on correct ILS operation.

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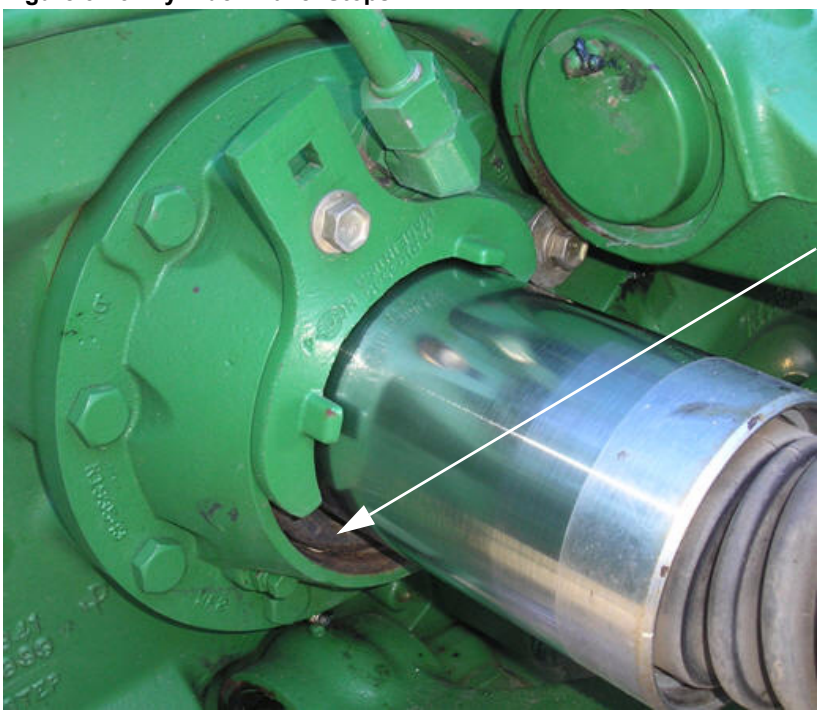
20. Turn off the engine and move the fuse to its original position by moving it from “DIAG” to “10A”.

Figure 3-44 10 A Fuse Replaced to Original Position

21. Once the fuse has been moved, the tractor may be operated normally and you may proceed with the AutoSteer installation.

Note: The cylinder travel stops can be adjusted to change the steering angle of the front wheels using the special tool that is bolted to the tractor as shown in *Figure 3-45*. Refer to you tractor dealer or tractor service manual for details.

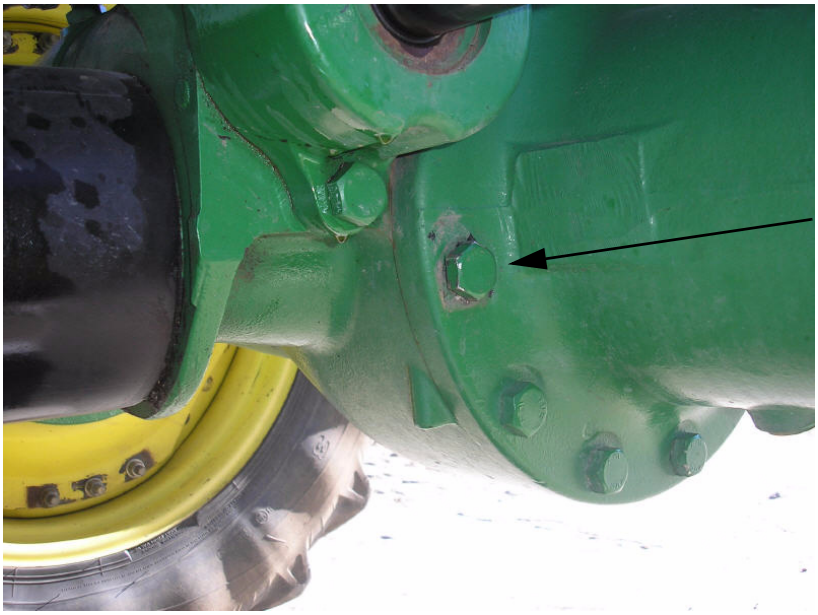
Figure 3-45 Cylinder Travel Stops



AutoSteer JD-7720/7820/7920/7730/7830/7930 Wheel Angle Sensor Installation

1. Remove the differential bolt shown in *Figure 3-46*.

Figure 3-46 Differential Bolt for Wheel Angle Sensor Bracket

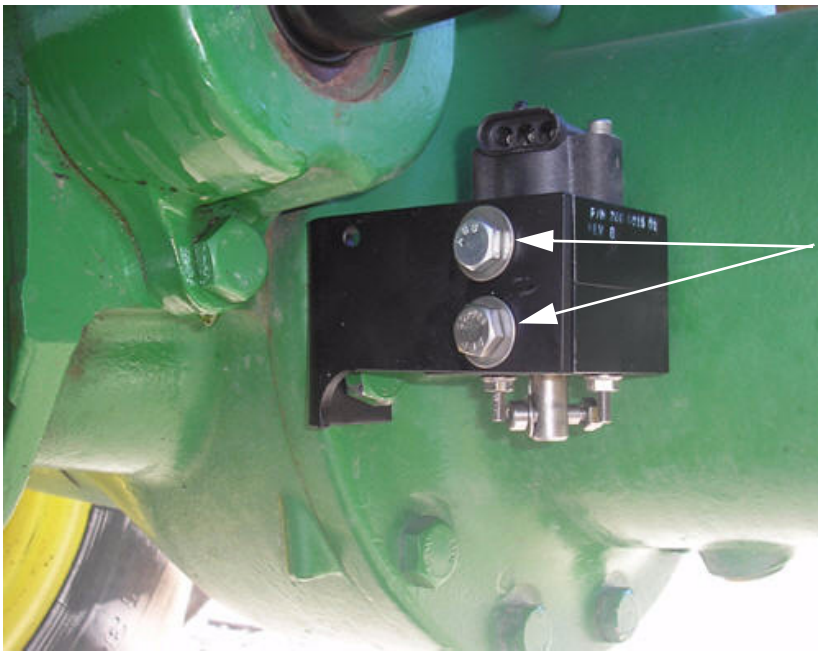


2. Mount the Wheel Angle Sensor bracket. Secure with the existing bolt on the differential housing. See *Figure 3-6*.

Figure 3-47 JD-7400 Wheel Angle Sensor Bracket Mounted

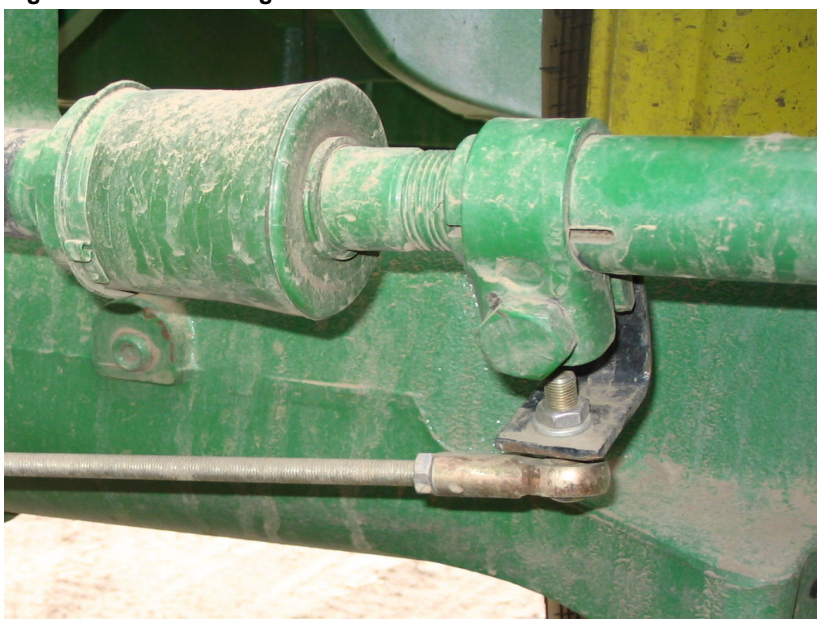
3. Install the wheel angle sensor on the bracket as shown in *Figure 3-48*.

Figure 3-48 Wheel Angle Sensor Mounting Bolts



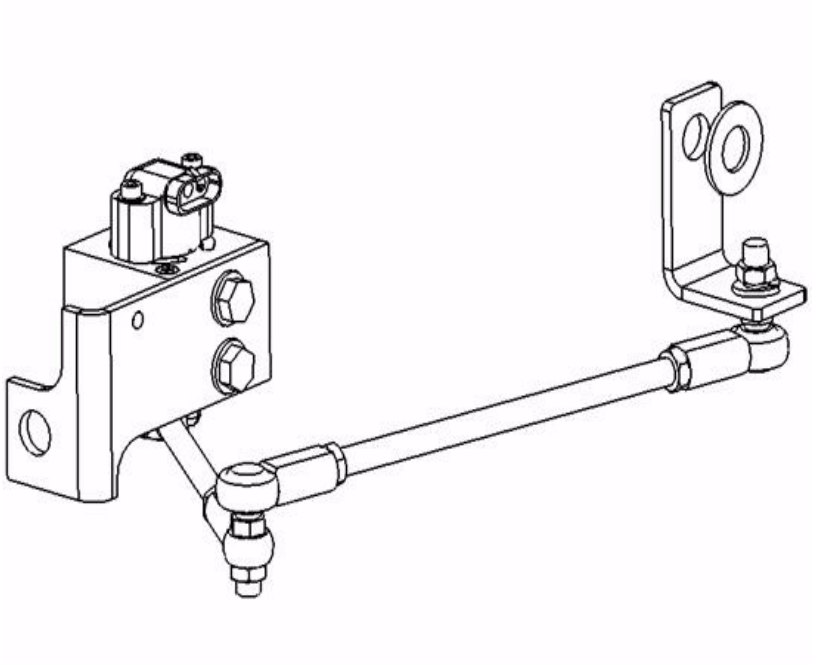
4. Install the “L” bracket on the existing tie rod bolt as shown in *Figure 3-49*.

Figure 3-49 Wheel Angle Sensor “L” Bracket Mounted



Note: The threaded linkage rods must be cut to the correct lengths before final assembly. The linkage rods are shown assembled in *Figure 3-50*. See *Table 3-1* and *Table 3-2* for the cut and assembled linkage rod lengths.

Figure 3-50 Wheel Angle Sensor Assembly Completely Assembled



5. Measure and mark the two rods for cutting, according to the length shown in *Table 3-1*.

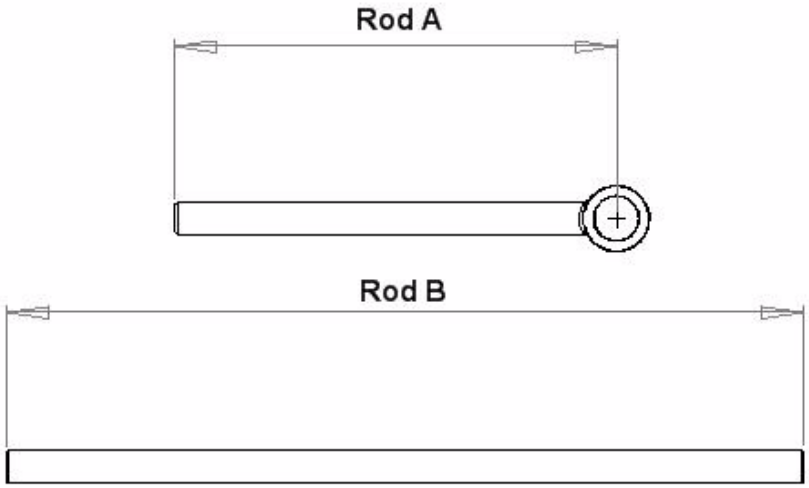
Table 3-5 Linkage Rod Cut Lengths

Item	Length
Rod A	4.5 inches (114 mm)[a]
Rod B	8.5 inches (216 mm)[a]

a. This measurement is the rod length prior to assembly with the ball joints.

Note: *Figure 3-7* shows the measurement points used to properly cut the linkage rods.

Figure 3-51 Linkage Rod Cut Length Measurement Points



6. Use a hack saw to cut the linkage rod to length while it is held in a bench vise. See *Figure 3-8*.

Figure 3-52 Linkage Rod Cutting

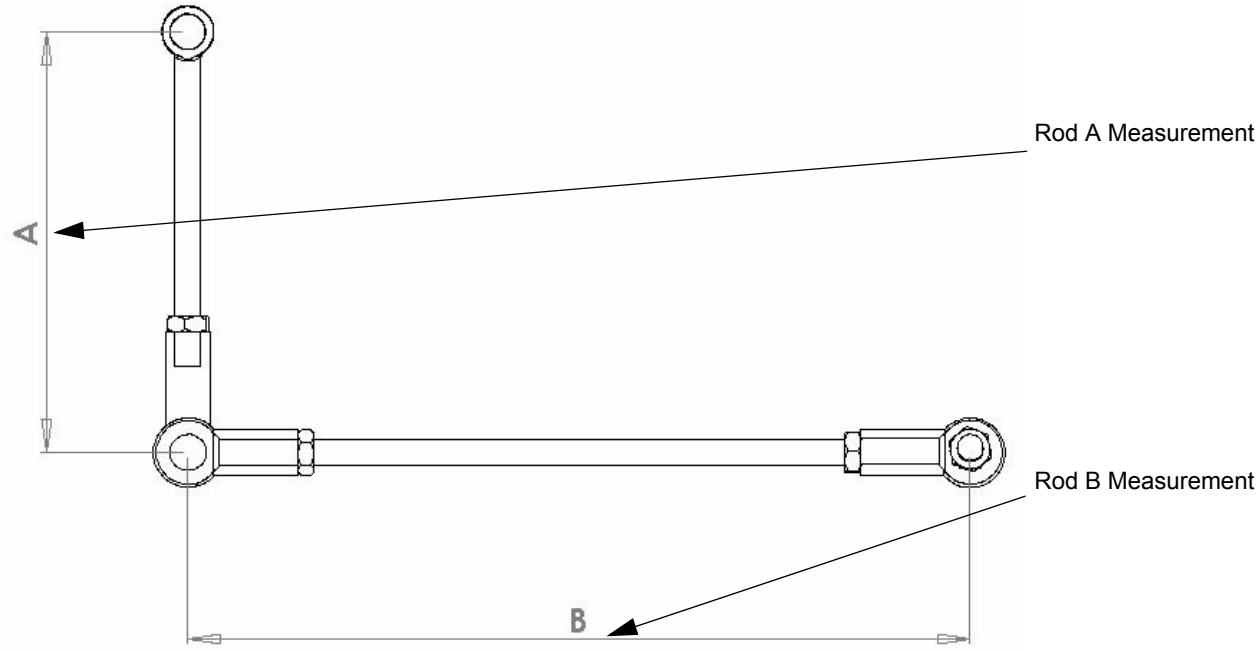
Note: The “after-assembly” center-to-center lengths of each linkage rod are shown in *Table 3-2*. *Figure 3-9* shows the measurement points for the assembled linkage rods.

Table 3-6 Assembled Linkage Rod Length

Item	Length
Rod A	5.5 inches (140 mm)[a]
Rod B	10.5 inches (267 mm)[a]

a. This measurement is the rod length after assembly with the ball joints.

Figure 3-53 Linkage Rod (Assembled) Measurement Points



Note: The threaded rods must be cut to the correct lengths before final assembly.

7. Install the short linkage arm on the wheel angle sensor shaft. See *Figure 3-54*.

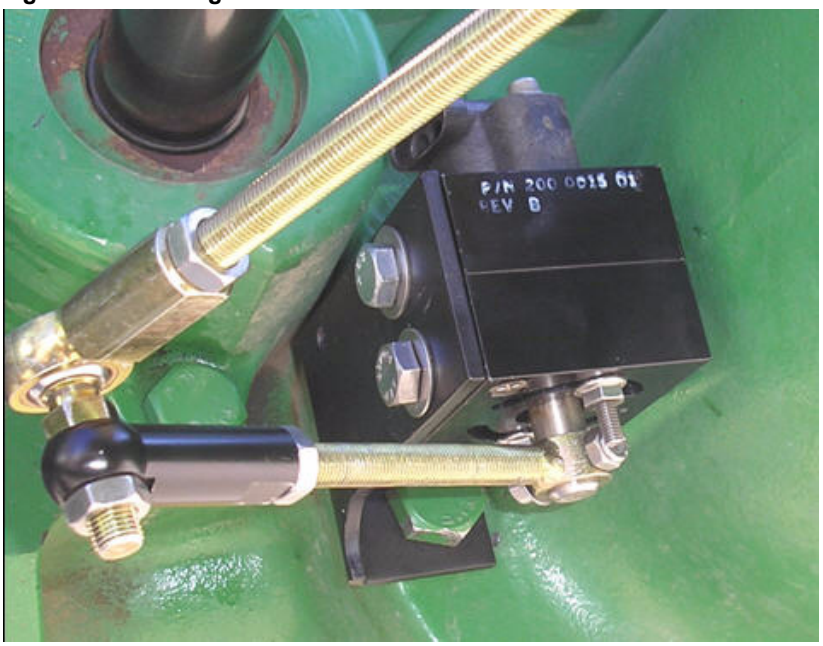
8. Install the long threaded linkage on the tie rod bracket using a ball joint. See *Figure 3-54*.

Figure 3-54 Linkage Rods Installed

9. Tighten the screw and nut that secure the linkage arm to the angle sensor shaft. See *Figure 3-55*.

10. Tighten all linkage nuts and jam nuts after the linkage rod lengths have been adjusted.

Figure 3-55 Linkage Rod Connections



11. Tighten the bolt securing the two linkage rods together.

12. Tighten the two screws that secure the potentiometer on the wheel angle sensor, after final adjustments. Use a 5/32” hex key and a 3/8” wrench.

Note: Do not turn the front wheels or drive the tractor before the wheel angle sensor has been adjusted using the AutoSteer Calibration screens. The potentiometer can only rotate a maximum of 180 degrees and if it is rotated beyond its mechanical stops, it will be permanently damaged.

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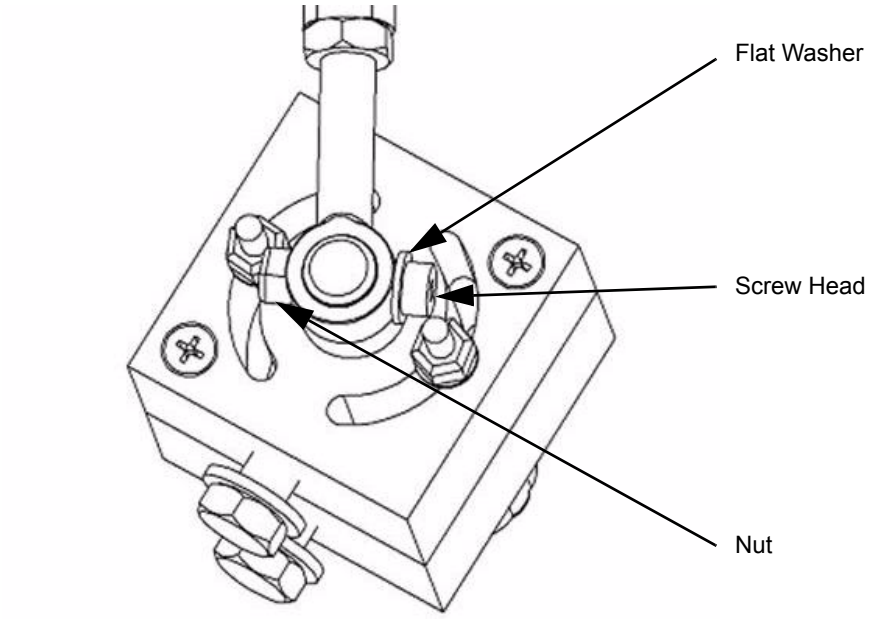
13. Ensure a flat washer is placed under the screw head when attaching the linkage rod to the sensor shaft. See *Figure 3-56*.

Figure 3-56 Washer on Shaft Screw



Note: The washer should be on the screw head side and not the nut side of the assembly.

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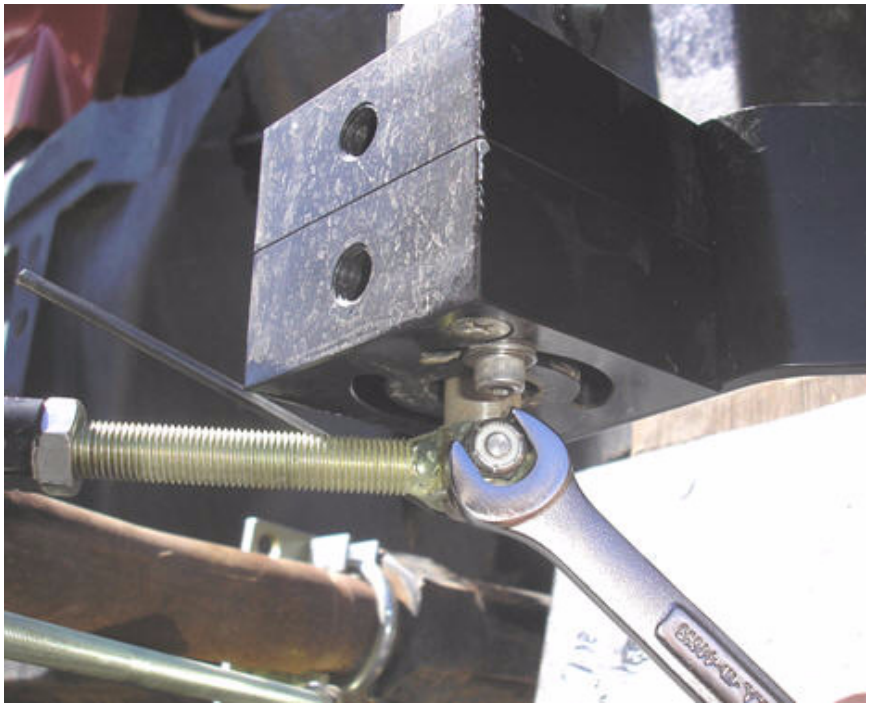
14. Tighten the screw on the sensor shaft. Use a 1/8” hex key and a 3/8” wrench. See *Figure 3-57*.

Figure 3-57 Wheel Angle Sensor Shaft Tightening (different vehicle shown)



15. Secure the cable along the bracket top using cable ties, after the SAM harness is installed.

Note: The AutoSteer system must be fully functional before you can perform *Step 16*.

---

16. Adjust the arm length until you get approximately 3000 counts from the wheel angle sensor.

Note: If necessary, shorten Rod A to increase the wheel angle sensor counts.

---

17. Tighten all jam nuts and fasteners.

18. *Figure 3-58* shows the completed Wheel Angle Sensor installation.

Figure 3-58 Wheel Angle Sensor Installation Complete

Flow Meter Spacer Installation

Note: This procedure is only required on vehicles that have a factory installed flowmeter. The procedure is identical for all vehicle models regardless of the flow meter location.

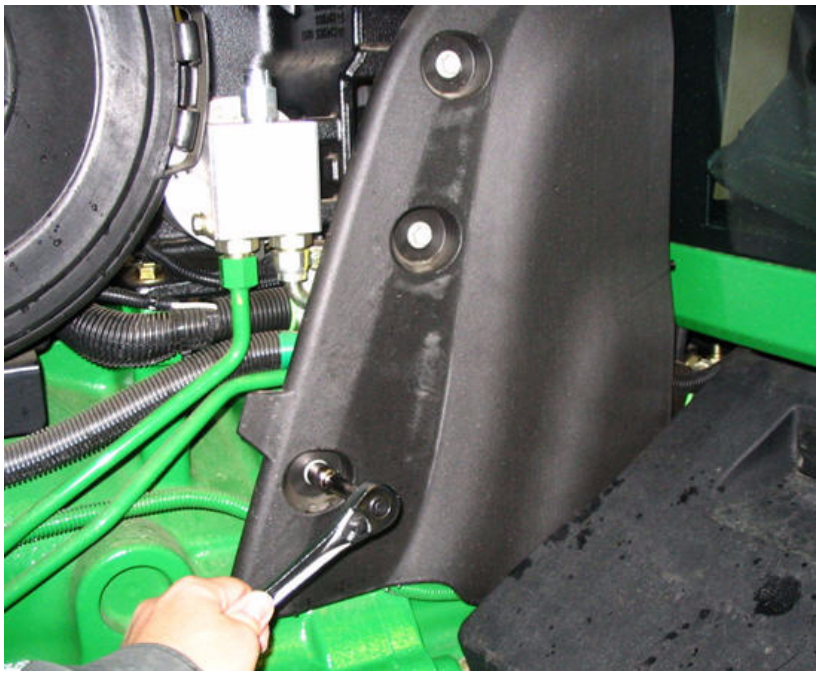
Note: On some vehicle models you may be able to access the flow meter sensor connector without removing the flow meter itself. Before beginning the procedure, see if you can access the flow meter sensor without removing the flow meter and disconnecting the hydraulic lines.

1. Pull the latch handle near the front grill and open the engine hood.

Figure 3-59 Engine Hood Opened

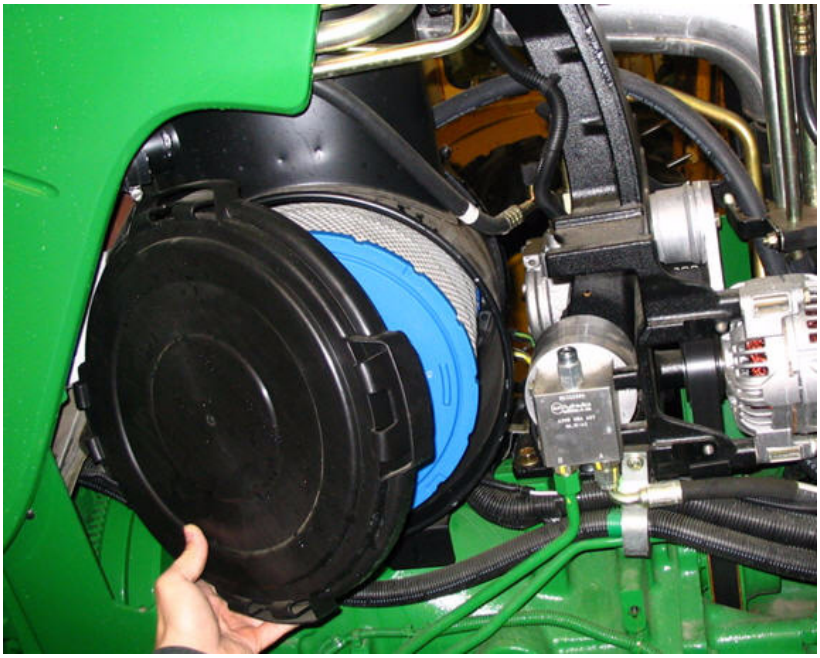
2. Remove the three hex screws and remove the plastic side panel for better access to flow meter and hydraulic lines. Use a 13mm socket wrench. See *Figure 3-60*.

Figure 3-60 Removing Plastic Side Panel



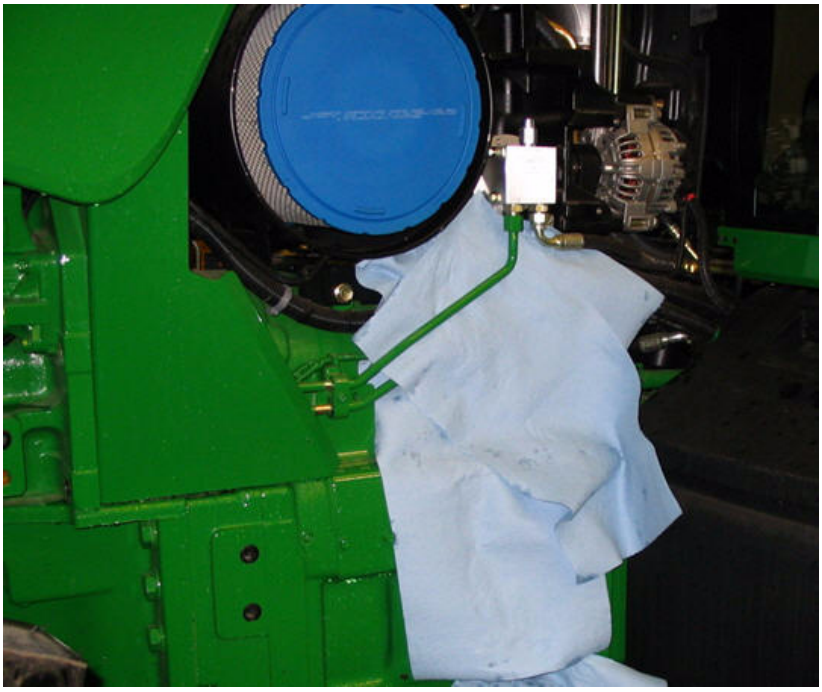
3. Clean the vehicle around the flow meter before starting the installation.
4. Remove the plastic cover from the air filter. Just pull on cover handles and it snaps off. See *Figure 3-61*.

Figure 3-61 Removing Air Filter Cover



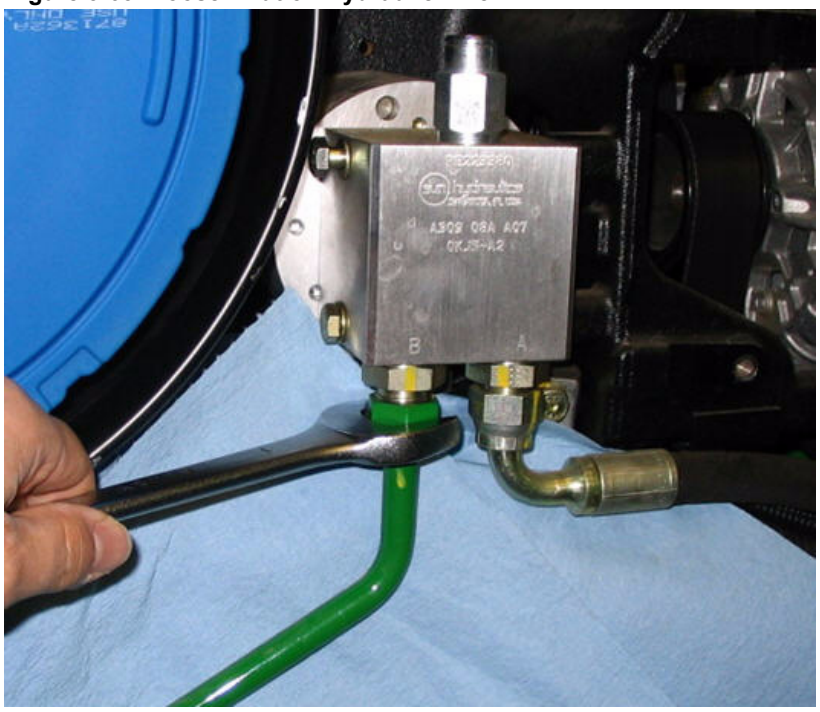
5. Protect the vehicle under the flow meter with paper towels or cloth. Some oil will leak when the hoses are opened. See *Figure 3-62*.

Figure 3-62 Paper Towels Under Flow Meter



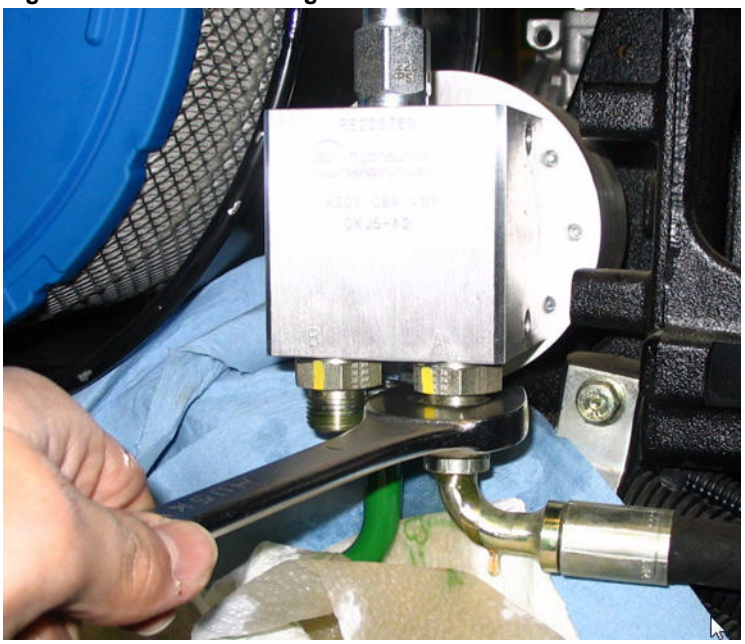
6. Loosen the nut on the steel steer line. Use 15/16” wrench. See *Figure 3-63*.

Figure 3-63 Loosen Nut on Hydraulic Line



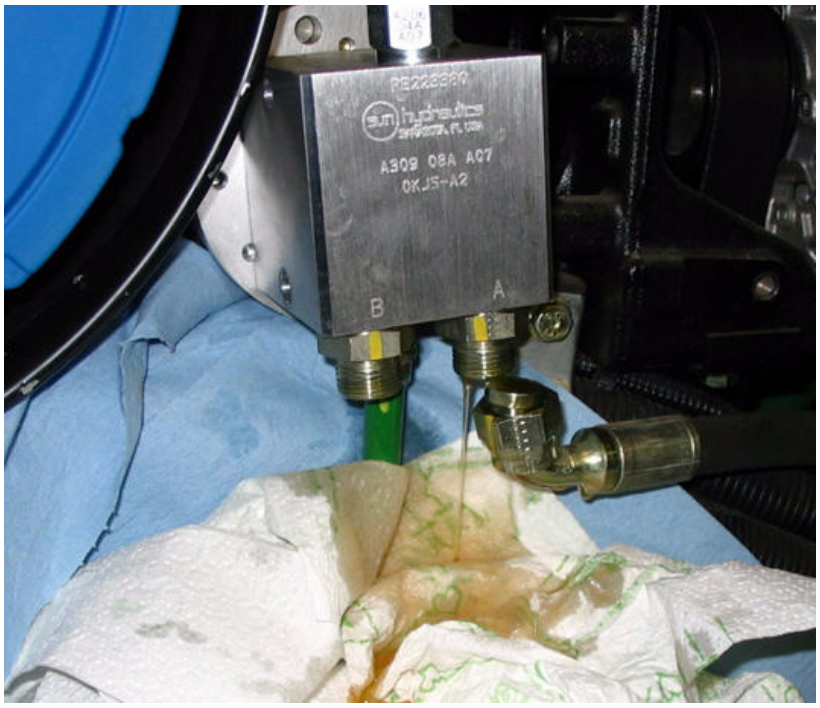
7. Carefully remove the nut. Keep all the parts clean to avoid oil contamination.
8. Loosen the nut on the right side hose. Use 15/16” wrench. See *Figure 3-64*.

Figure 3-64 Flow Meter Right Nut



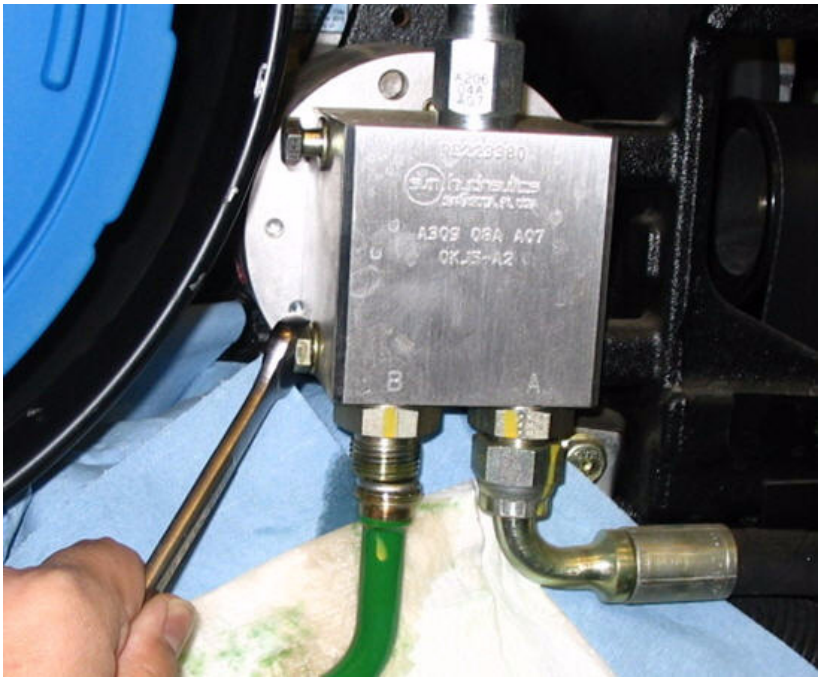
9. Some oil will leak as shown in *Figure 3-65*.

Figure 3-65 Excess Oil Leaking When Flow Meter Nut Loosened



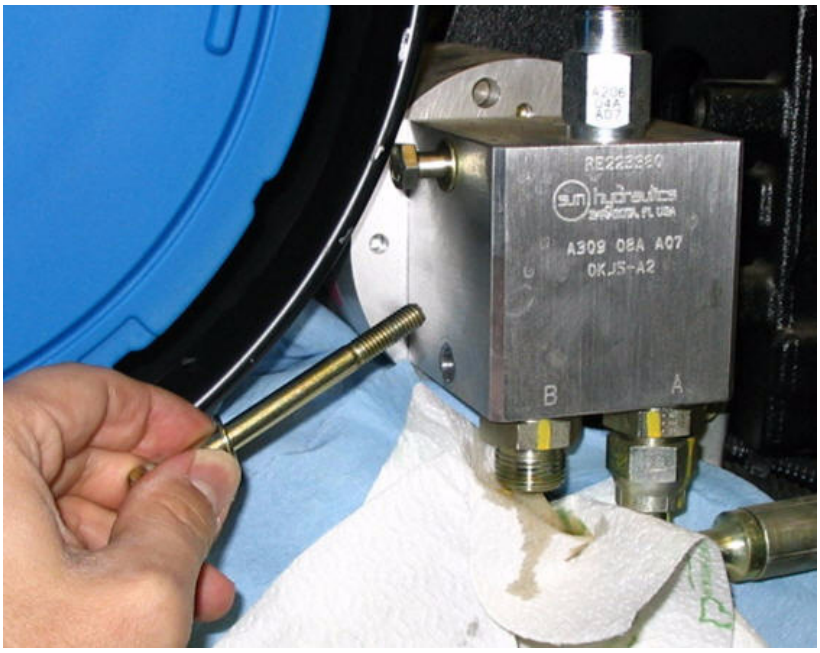
10. Loosen the two long hex screws that secure the flow meter to the vehicle frame. Use 13mm wrench. See *Figure 3-66*.

Figure 3-66 Flow Meter Hex Screws



11. Pull the flow meter forward until the two long screws clear the air filter and then remove the two screws. See *Figure 3-67*.

Figure 3-67 Removing Flow Meter Hex Screws



12. Pull out the flow meter taking care not to damage the vehicle harness and the electrical connector on the back of the flow meter. See *Figure 3-68*.

Note: Oil will leak from the flow meter when it is removed. Protect the floor from oil spillage to avoid a hazardous condition.

Figure 3-68 Removing the Flow Meter

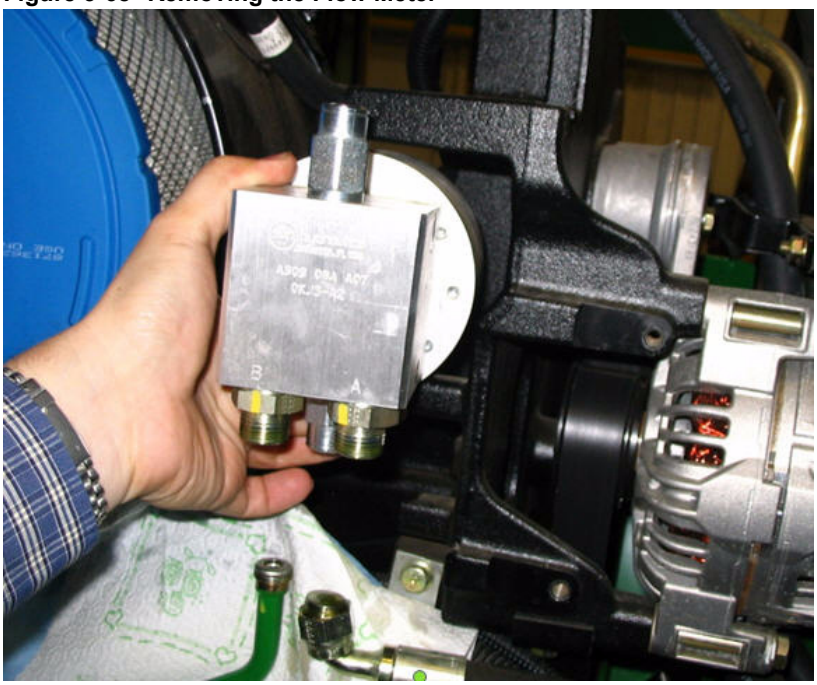
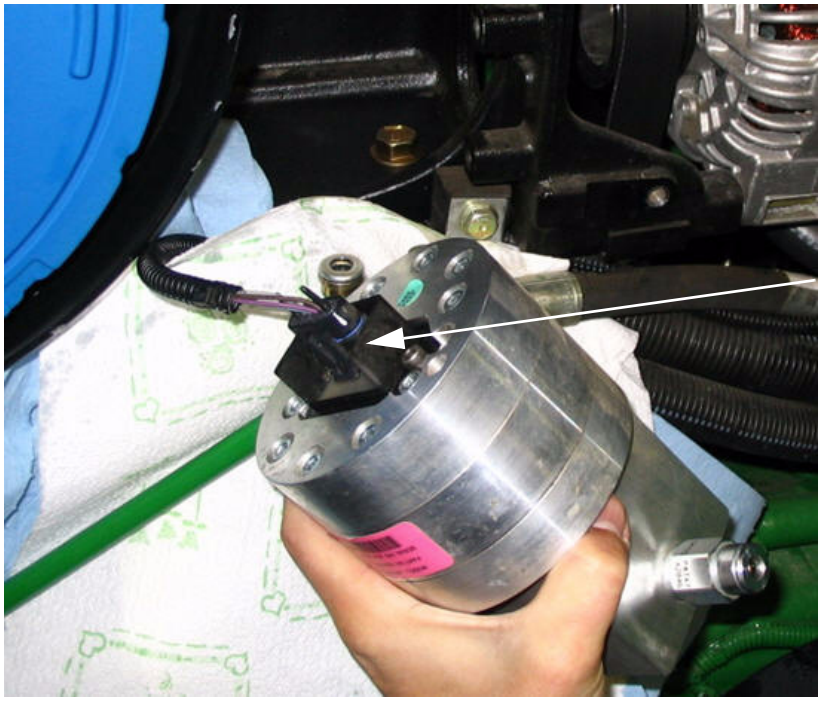


Figure 3-69 shows the sensor that will be removed for installing the two AutoSteer spacers.

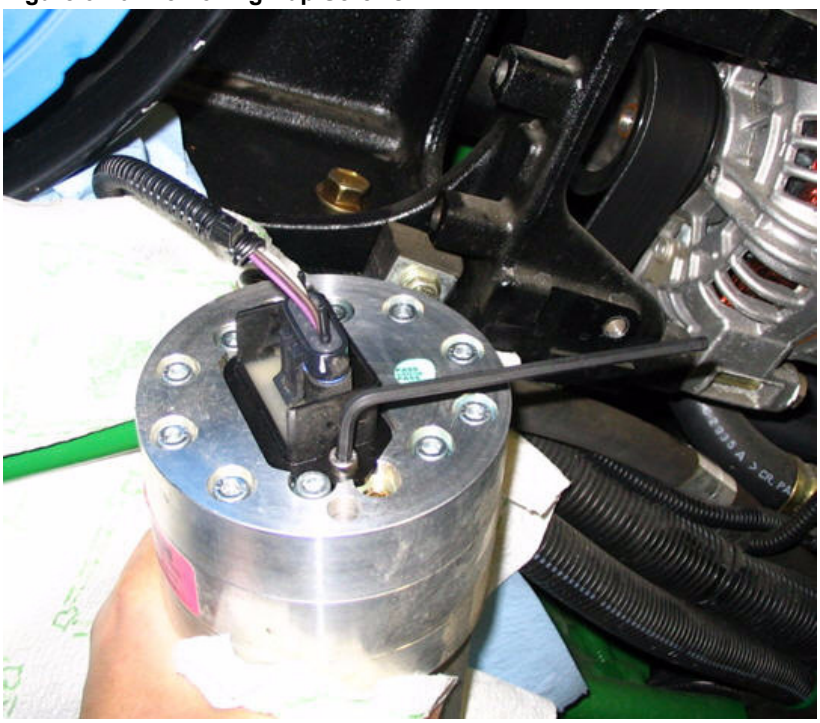
Note: Do not force or pull on the electrical harness. Do not drop the flow meter.

Figure 3-69 Flow Meter Removed



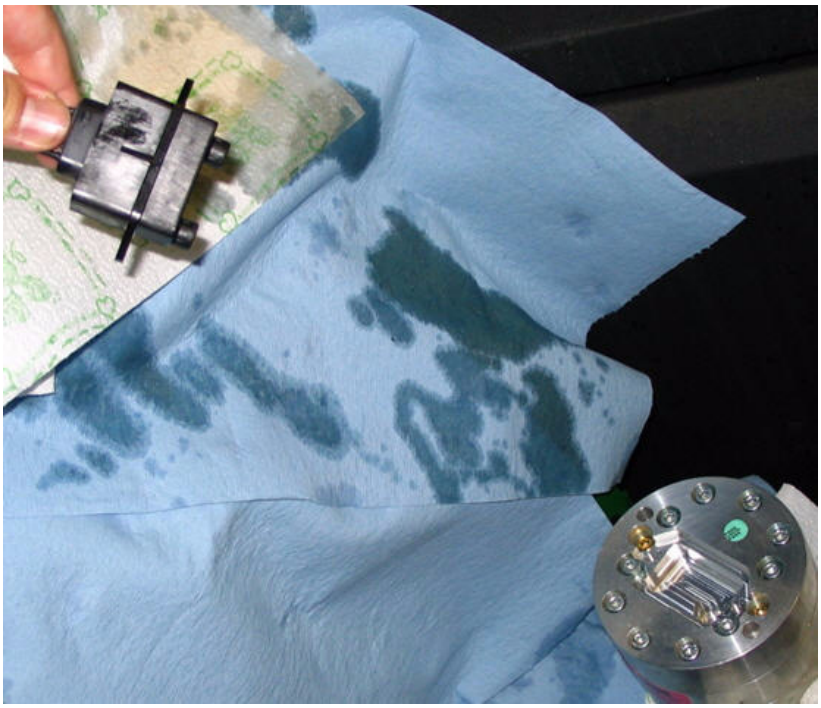
13. Remove the two socket head cap screws (Allen screws) that secure the sensor. Use 4mm hex key. See *Figure 3-70*.

Figure 3-70 Removing Cap Screws



14. Remove the sensor from the flow meter. See *Figure 3-71*.

Figure 3-71 Sensor Removed



15. The two AutoSteer spacers and longer screws shown in *Figure 3-72* are installed between the sensor and the body of the flow meter.

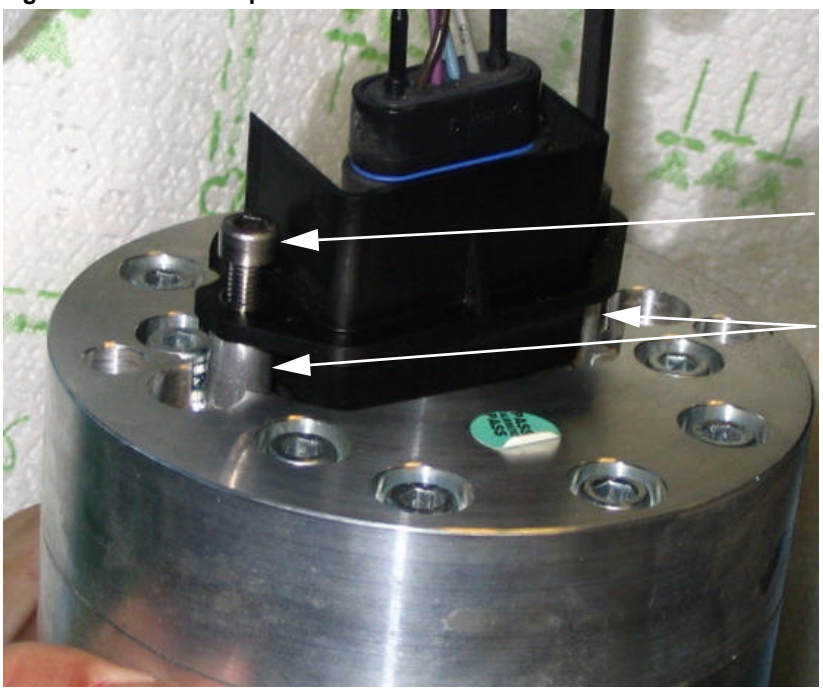
Figure 3-72 Spacers and Screws

16. Install the two spacers between the sensor and the flow meter as shown in *Figure 3-73*.

17. Secure the sensor with the two longer screws provided in your kit. Tighten the two screws.

Note: These screws have metric threads.

Figure 3-73 Sensor Spacers Installed



18. Carefully replace the flow meter into its original position on vehicle. See *Figure 3-74*.

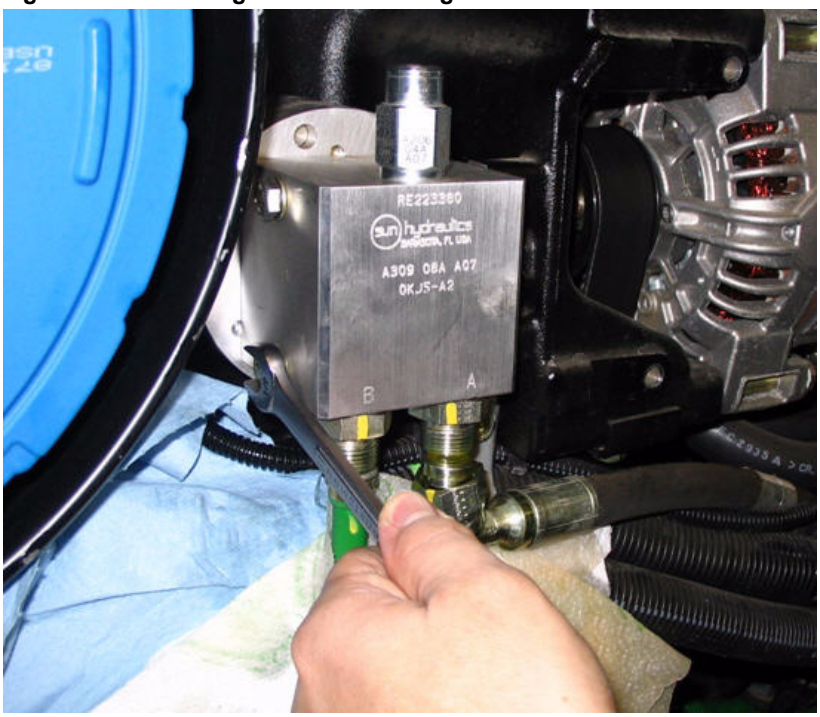
Note: Take care not to damage the harness or the connector.

Figure 3-74 Replacing the Flow Meter

19. Insert the two long hex screws and secure the flow meter to the vehicle frame. See *Figure 3-75*.

Note: Do not tighten these two screws now. At this point you should leave the flow meter slightly loose so that it can adjust to the position of the steel line.

Figure 3-75 Inserting the Hex Mounting Screws



20. Connect the hose to the flow meter and tighten the nut. See *Figure 3-76*.

Note: The hose adapters on the flow meter have O-Rings that must not be lost or damaged. Ensure the O-Rings are in place before connecting hydraulic lines.

Figure 3-76 Reconnect Hose

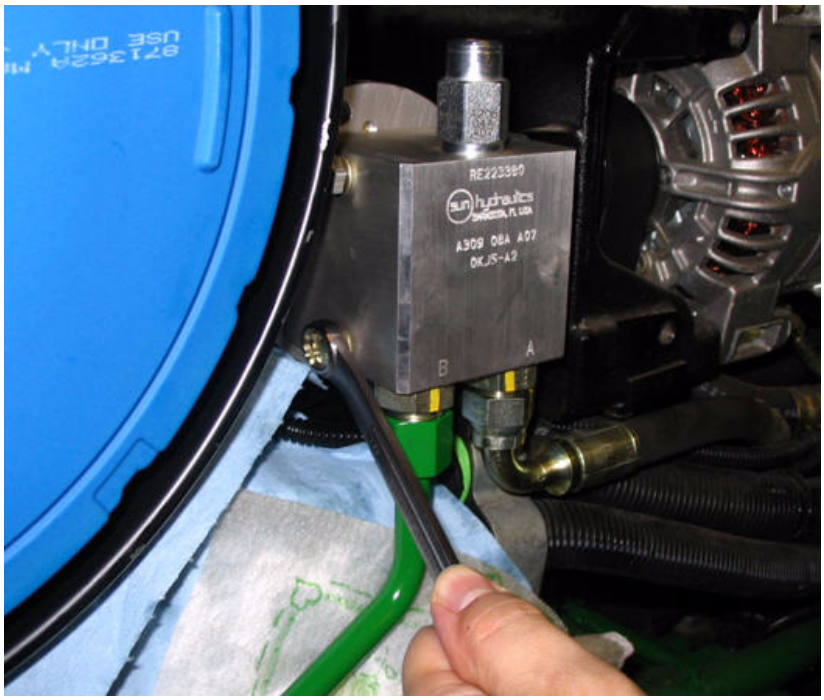
21. Connect the steel line to the flow meter and tighten the nut. See Figure 3-77

Note: The steel line must be correctly aligned with the flow meter before you install the nut. All hose fittings must be kept very clean during assembly.

Figure 3-77 Reconnecting The Steel Line

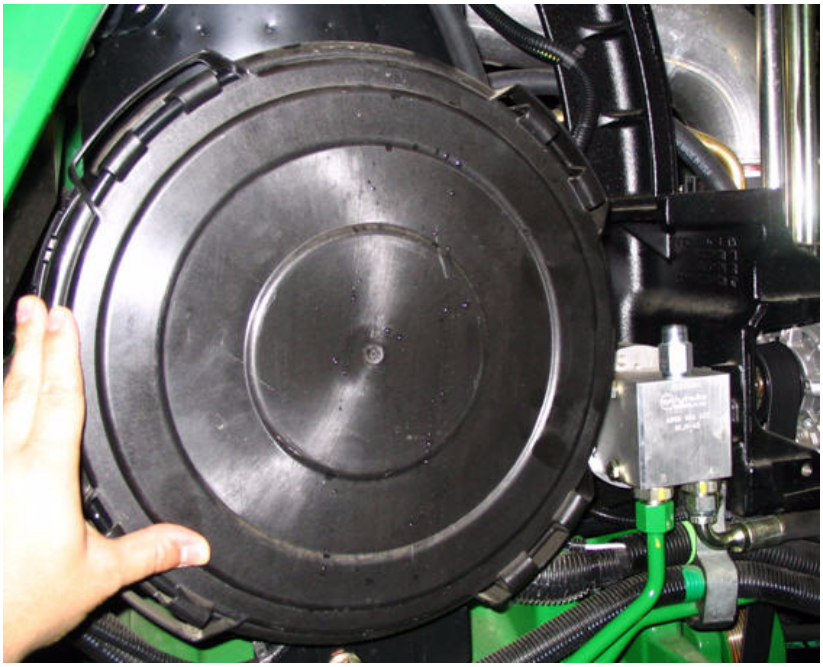
22. Tighten the two hex screws that secure the flow meter. See *Figure 3-78*.

Figure 3-78 Tighten Flow Meter Mounting Screws



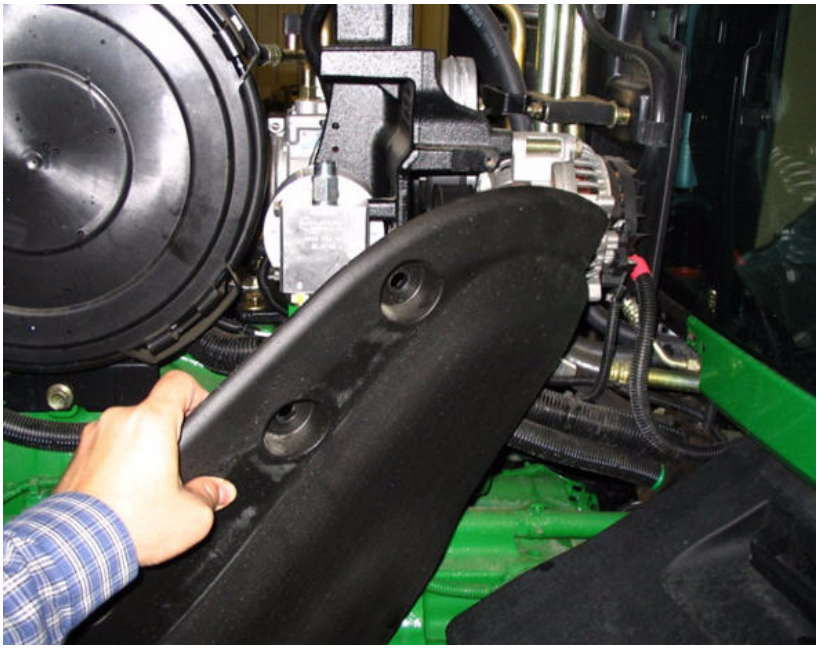
23. Install the plastic cover on the air filter. Push the cover and it snaps into place. See *Figure 3-79*.

Figure 3-79 Replacing Air Filter Cover



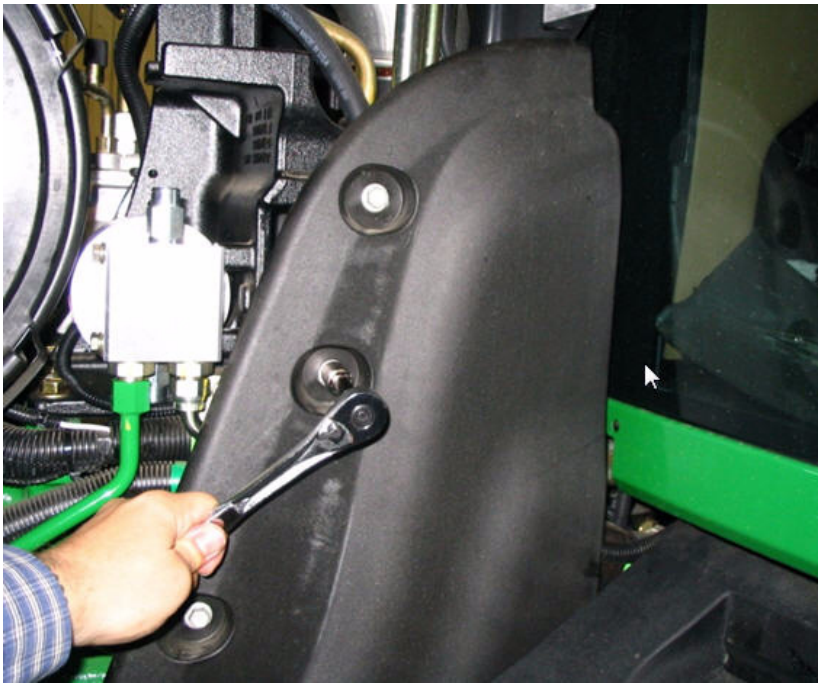
24. Install the plastic side cover. See *Figure 3-80*.

Figure 3-80 Installing Plastic Side Cover



25. Secure the plastic cover with the three hex screws. See *Figure 3-81*.

Figure 3-81 Retighten The Three Hex Bolts



26. Check if all hose fittings and screws are tight.

27. Start the engine and inspect the flow meter and the two hose connections for leaks.

28. Move the wheels right and left several times to build up pressure in the steer lines and check for leaks again.

29. Repair any oil leaks before returning the vehicle to service.

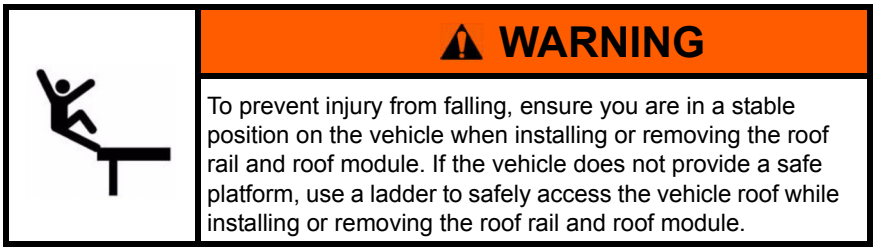
Roof Module Installation

This **Roof Module Installation** chapter contains information in the following sections:

- *Safety Notes*
- *Quick Release Rail Installation*

Safety Notes

- The AutoSteer system must be powered OFF when installing or removing the Roof Module.
- The Roof Module must always be firmly secured to the roof rail using the hardware whenever the vehicle is in operation to prevent the roof module from releasing from its bracket and falling.
- The Roof Module must be removed when transporting the vehicle at speeds above 30 mph.
- Ensure you are in a stable position on the tractor platform or ladder when removing the Roof Module, so that you do not fall or drop the Roof Module.
- Use a ladder to install the AutoSteer roof rail.


WARNING
To prevent injury from falling, ensure you are in a stable position on the vehicle when installing or removing the roof rail and roof module. If the vehicle does not provide a safe platform, use a ladder to safely access the vehicle roof while installing or removing the roof rail and roof module.

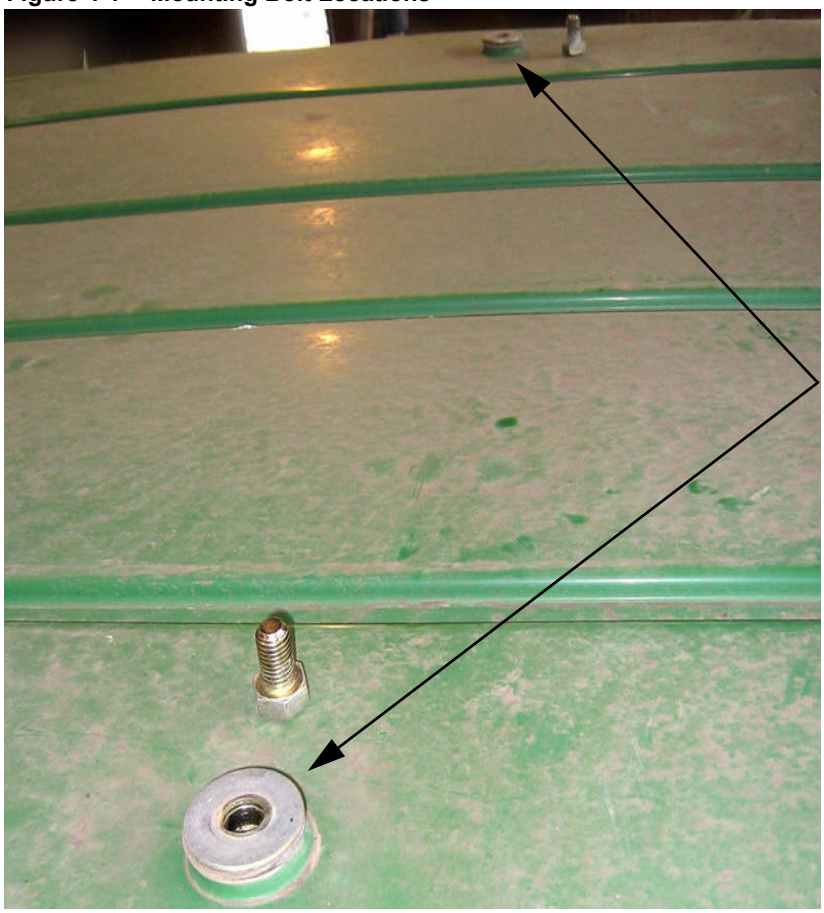
Quick Release Rail Installation

1. Place the ladder as close as possible to the side of the cab.

Note: The ladder is necessary to install the roof rail and roof module.

2. Locate the two bolts on each cab roof side. See *Figure 4-1*.
3. Remove the two bolts. See *Figure 4-1*.

Figure 4-1 Mounting Bolt Locations



4. Place 4 of the flat washers provided with the installation kit on top of the existing washer on both bolt holes. See *Figure 4-2*.
5. Place the quick attach rail on top of the washers and center it over the cab. See *Figure 4-2*.
6. Place another flat washer on top of the quick attach rail and then install the longer mounting bolts provided with the installation kit.

Figure 4-2 Mount Rail on Spacer Washers

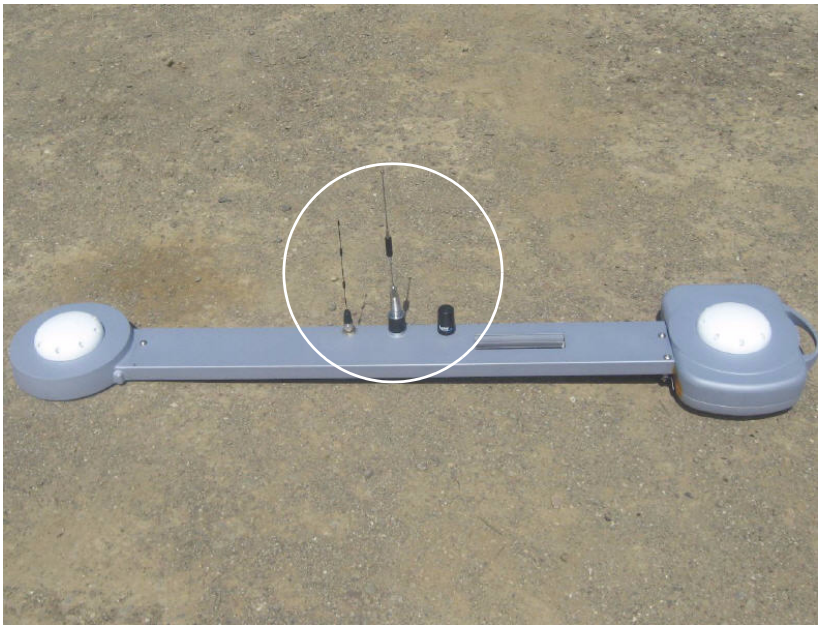
7. Tighten the quick attach rail securely with a 24mm socket, short extension, and ratchet. See *Figure 4-3*.

Figure 4-3 Tighten Rail Bolts

8. Attach the three antennas to the proper antennas connections on the roof module. See *Figure 4-4*.

Note: Hand tighten the connections. Do not over tighten.

Figure 4-4 Attach the Antennas



9. Place the roof module on the quick attach rail. See *Figure 4-5*.

Figure 4-5 Roof Module on Rail

10. Remove the locking pin from the quick attach rail. See *Figure 4-6*.

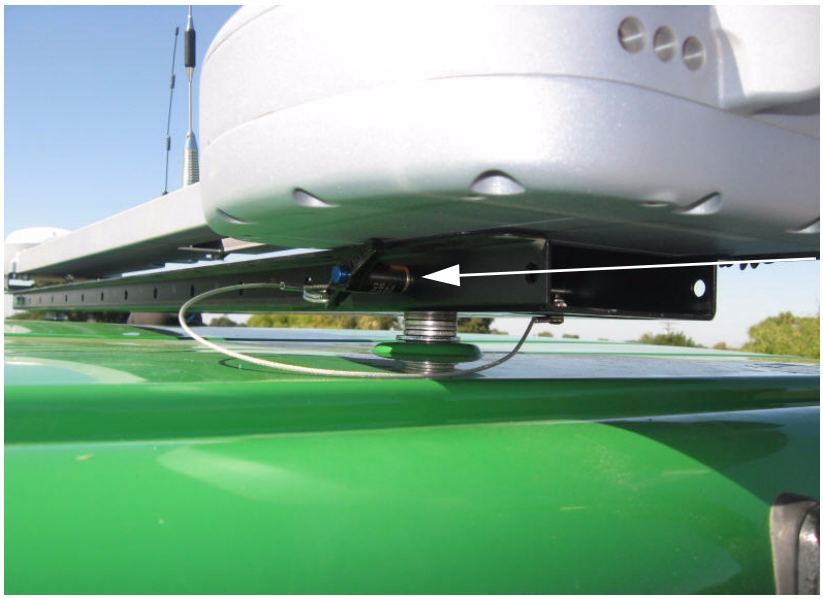
Note: Press the button on the end of the handle to allow the pin to be removed.

Figure 4-6 Removing the Locking Pin

11. Adjust the roof module position on the rail.

12. Re-insert the locking pin to lock the roof module onto the vehicle. See *Figure 4-7*.

Figure 4-7 Locking Pin Inserted



13. Confirm the roof module is secured to the rail by puling on the roof module handle.

14. Bend the radio antenna forward and latch in the wire clip to hold it from rubbing on the roof module. See *Figure 4-8*.

Figure 4-8 Latching Radio Antenna

Figure 4-9 Roof Module Installed

Display Installation

This **Display Installation** chapter contains information for installing and adjusting the Display in the following sections:

- *Introduction*
- *Installation Procedure*

Introduction

Note: The display components may be different depending on the model vehicle the installation is being performed upon.

Installation Procedure

1. Unscrew the threaded plastic hole caps from the cab post. See *Figure 5-1*.

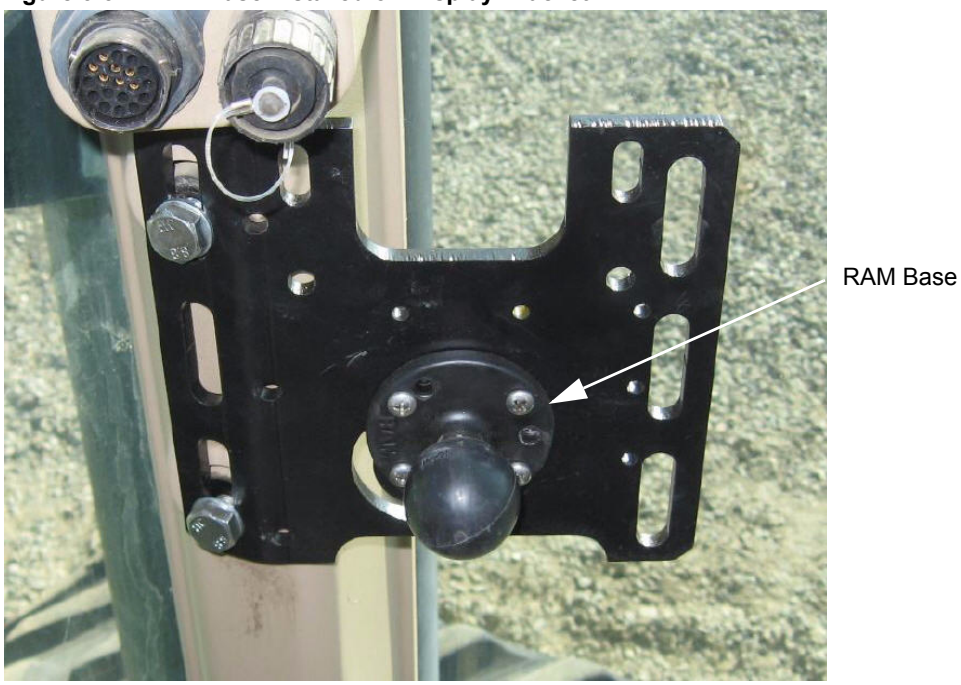
Figure 5-1 Plastic Mounting Hole Covers

2. Choose the holes on your monitor bracket that provide a good mounting height.
3. Install the Display bracket on the right side of the cab using the two bolts provided. See *Figure 5-2*.

Figure 5-2 Mounted Display Bracket

4. Install the RAM Mount base ball (1-1/2” diameter) on the display bracket on the right side cab post. See *Figure 5-3*.

Figure 5-3 RAM Base Installed on Display Bracket



5. Secure the RAM base using four 10-32x3/4 Phillips screws.
6. Secure the display to the Ram Base using the mount arm.
7. Loosen the wing nut to adjust the monitor position and viewing angle.

Connecting System Cables

This **Connecting System Cables** chapter provides information for connecting the Main Cable Harness and the SA Module Cable Harness to the various vehicle and AutoSteer components in the following sections:

- *SA Module Harness*
  - *SA Module Connection*
  - *Wheel Angle Sensor Connection*
    - *Connecting the Kingpin Sensor*
  - *Steering Valve Connections*
    - *Steering Valve Location*
    - *Electrohydraulic Steering Valve Connector*
  - *Steering Wheel Sensor Connection*
- *Main Cable Harness*
  - *Roof Module*
  - *Display*
  - *SAM Harness*
  - *Cab Power*

SA Module Harness

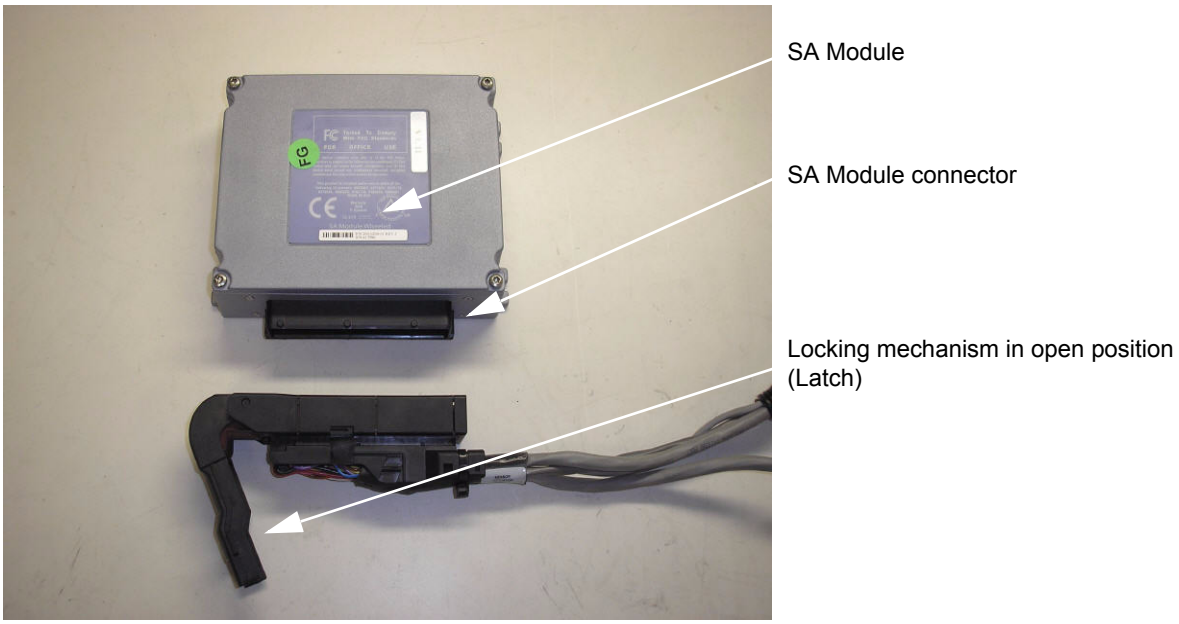
This **SA Module Harness** section contains the following sub-sections:

- *SA Module Connection*
- *Wheel Angle Sensor Connection*
- *Steering Valve Connections*

SA Module Connection

1. Align the SAM Harness connector to the SA Module. See *Figure 6-1*.
2. Open the connector latch lever. See *Figure 6-1*.

Figure 6-1 Connecting SA Module Connector



3. Press the harness connector onto the SA Module connector.

Note: You can damage the connectors if your force them into position. Do not force them together or use tools.

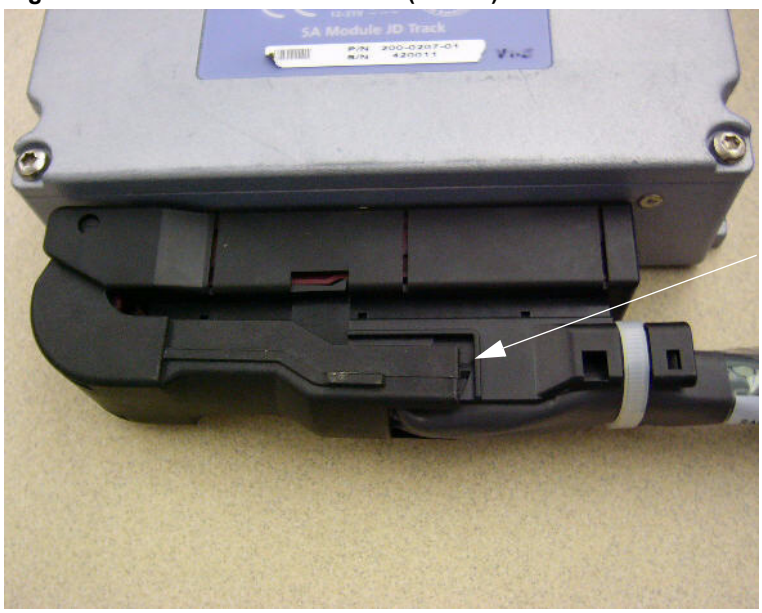
4. Press the latch lever closed until it clicks and locks the connector. See *Figure 6-2*.

Figure 6-2 Closing the SA Module Connector

Note: If you need to disconnect the SA Module connector, you must open the latch lever before attempting to pull the connectors apart.

5. *Figure 6-3* shows the SA Module Harness connected to the SA Module.

Figure 6-3 SA Module Connector (closed).

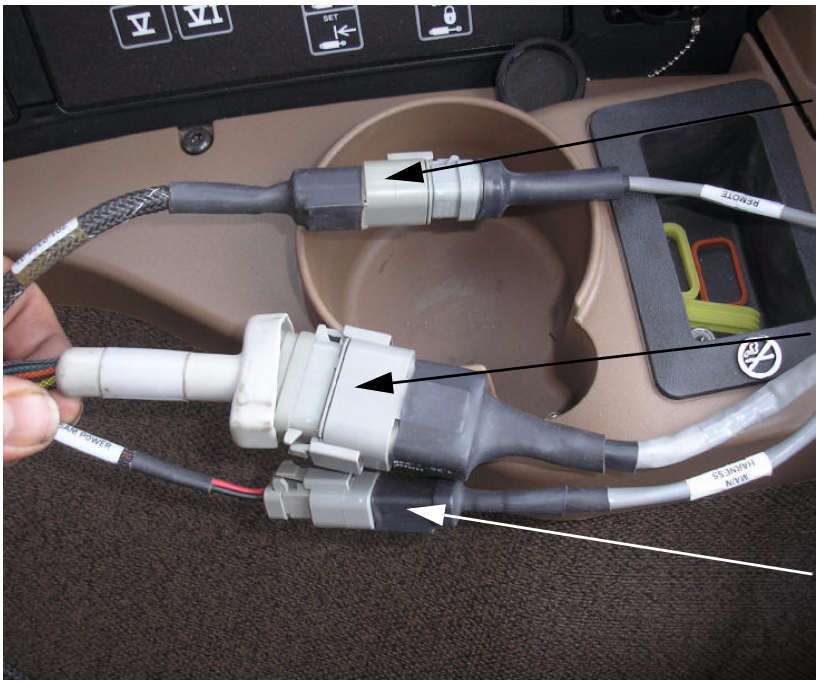


6. Route the SA Module cable into the cab through the rubber plug under the right or left side of rear window. See *Figure 6-4*.
7. Route the other half of the SAM harness under the cab towards the steering valve and wheel angle sensor on the left side. See *Figure 6-4*.

Figure 6-4 Routing the SA Module Harness into the Cab

8. Connect the 12-pin data, 2-pin power and 4-pin footswitch (if required) connectors between the Main Cable Harness and the SAM Harness. See *Figure 6-5*.

Figure 6-5 SAM Harness to Main Cable Harness Connections



9. Proceed to the *Wheel Angle Sensor Connection* procedure.

Wheel Angle Sensor Connection

Note: There are three possible wheel angle sensor connection scenarios:
1. If your vehicle has a kingpin sensor you may connect the SAM Harness to it using the provided adapter.
2. If your vehicle has a steering line flow meter you must install the AutoSteer wheel angle sensor which is then connected to the AutoSteer SAM Harness.
3. You can install the optional AutoSteer wheel angle sensor and connect it to the AutoSteer SAM Harness, even if your vehicle has a factory Kingpin sensor installed.

Connecting the Kingpin Sensor

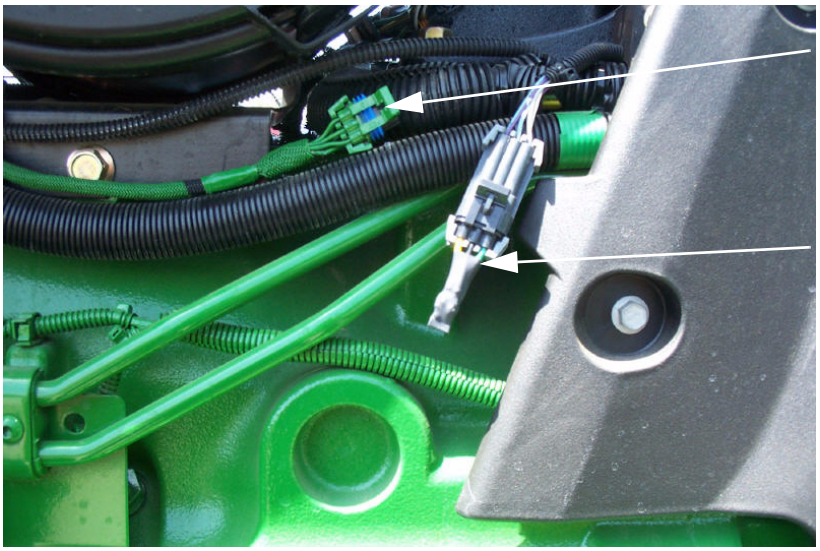
1. Open the vehicle engine hood to access the kingpin sensor connector.

Figure 6-6 Kingpin Sensor Connector Location

2. Unplug the vehicle kingpin sensor harness connector. See *Figure 6-7*.
3. Connect the Wheel Angle Sensor adapter terminator. See *Figure 6-7*.

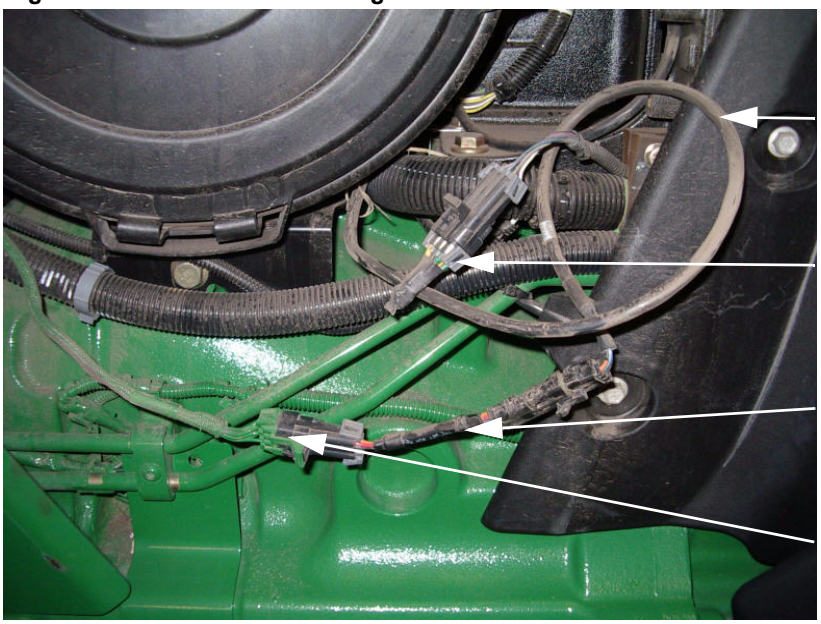
Note: See the *Bracket Kit* section of the *Installation Overview* chapter for more information on the cable terminators.

Figure 6-7 Kingpin Connector Unplugged



4. Connect the Kingpin sensor connector to the SAM harness using the short adapter harness. See *Figure 6-8*.
5. Install a 6-pin termination plug on the vehicle's 6-pin connector. See *Figure 6-8*.

Figure 6-8 AutoTrac Wheel Angle Sensor Harness Connection



6. Secure all loose cables with cable ties.

Steering Valve Connections

This **Steering Valve Connections** section contains the following sub-sections:

- *Steering Valve Location*
- *Electrohydraulic Steering Valve Connector*

Steering Valve Location

The steering valve is located on the left side of the vehicle under the cab. See *Figure 6-9* and *Figure 6-10*.

Note: On some vehicles the steering valve is mounted directly to the Orbitrol.

Figure 6-9 Electro-Hydraulic valve Location

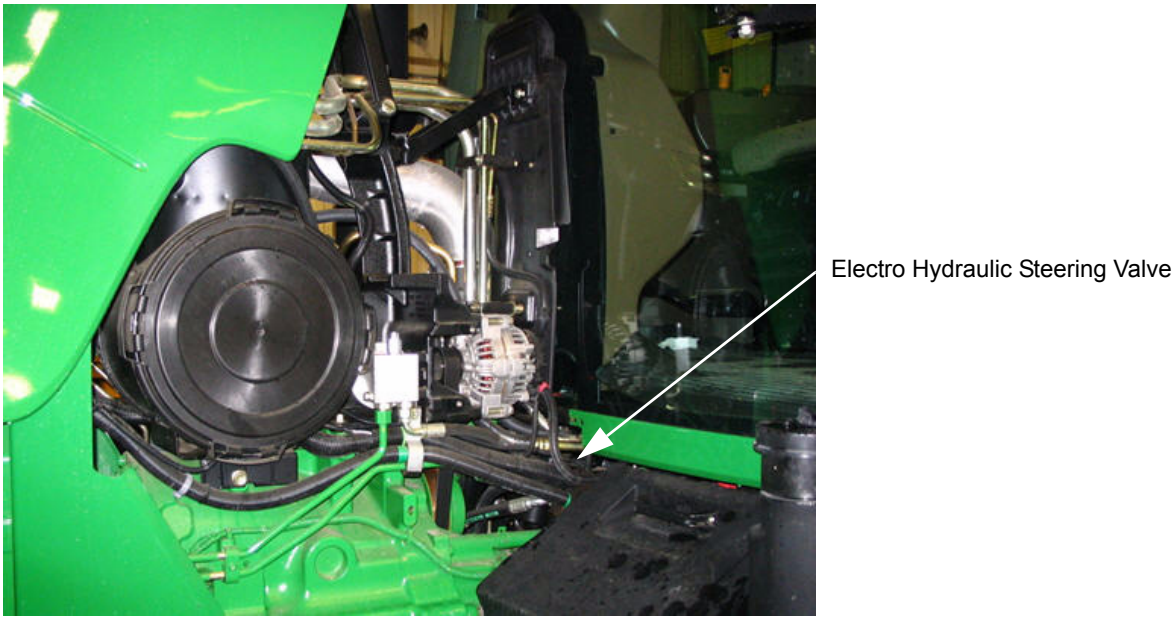
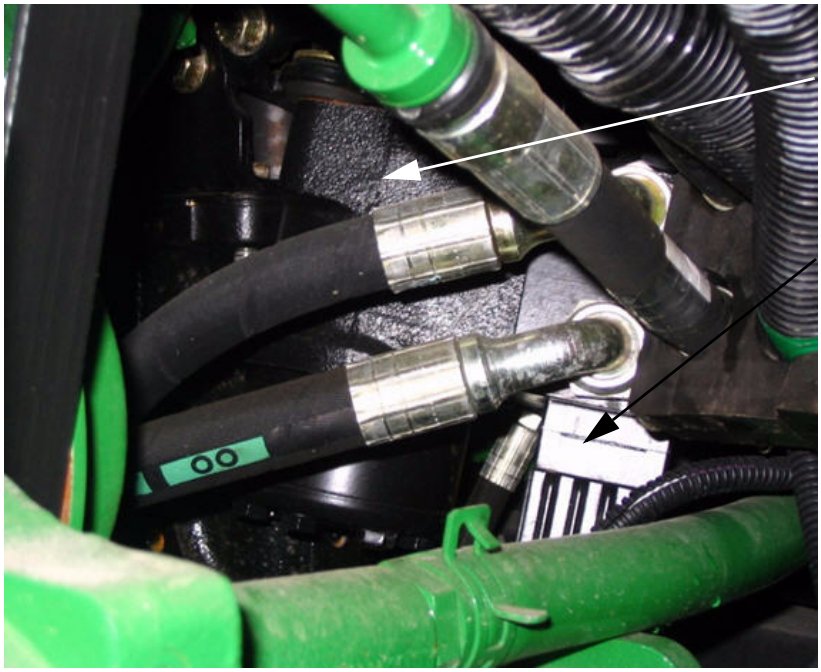


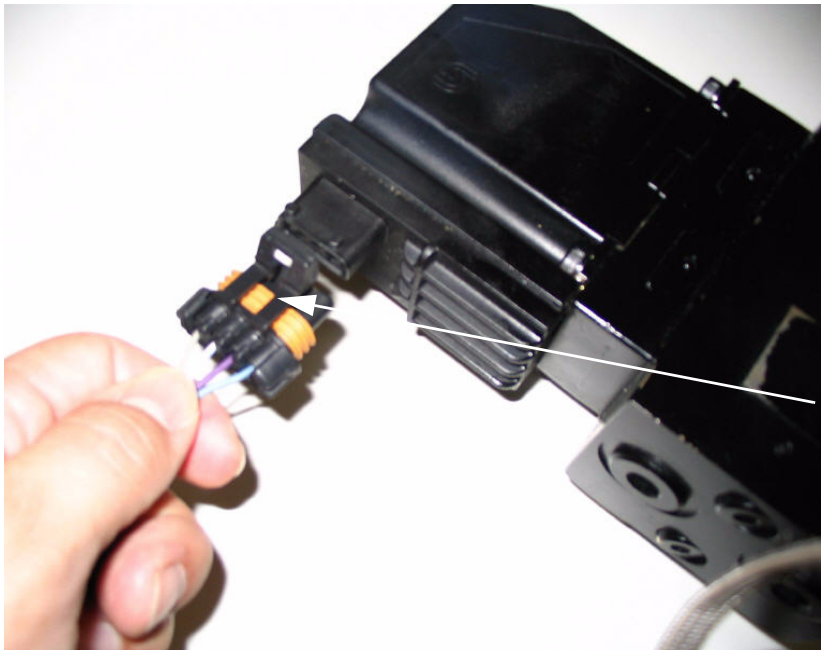
Figure 6-10 Orbitrol and Electro-Hydraulic Valve



Electrohydraulic Steering Valve Connector

1. Disconnect the existing JD connector from the JD electrohydraulic steering valve as shown in *Figure 6-11*.

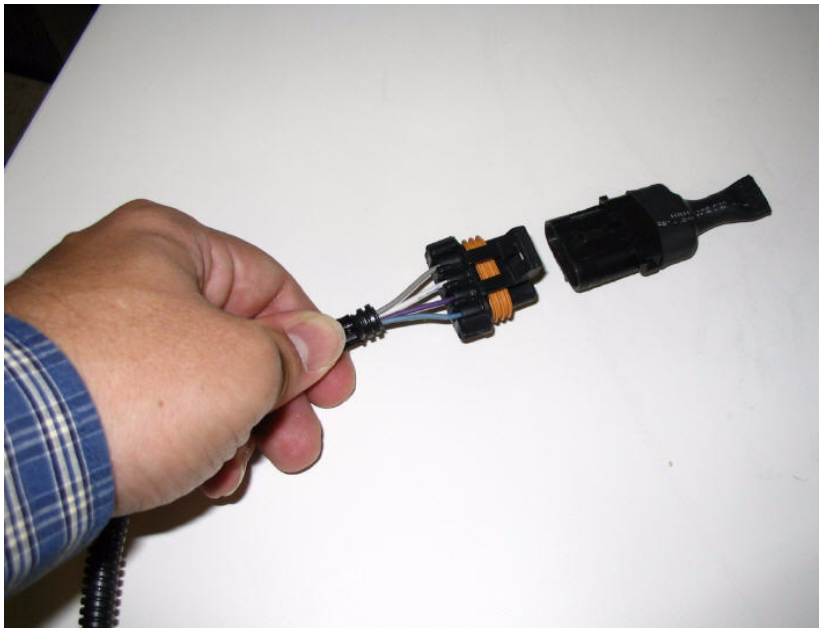
Figure 6-11 Disconnecting the Electrohydraulic Steering Valve Connector (shown on workbench)



2. Connect the JD cable connector to the dummy connector provided in your kit to protect the original connector.

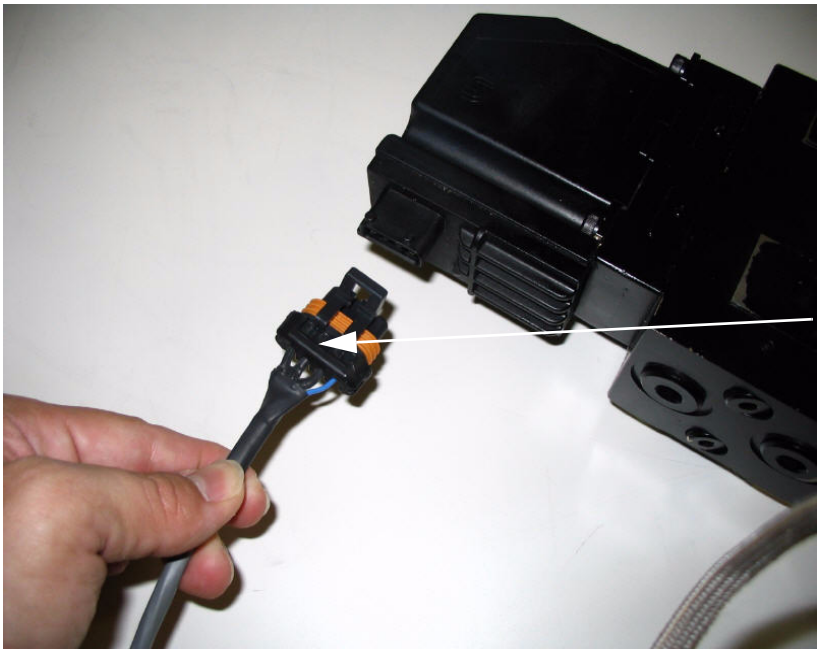
Note: The dummy connector is shipped in your kit attached to the SA Module harness

Figure 6-12 John Deere Steering Valve Dummy Connector Attachment (shown on workbench)



3. Connect the SAM harness to the valve as shown in *Figure 6-13*.

Figure 6-13 Connecting the SAM Harness Connector to the Electrohydraulic Steering Valve (shown on workbench)



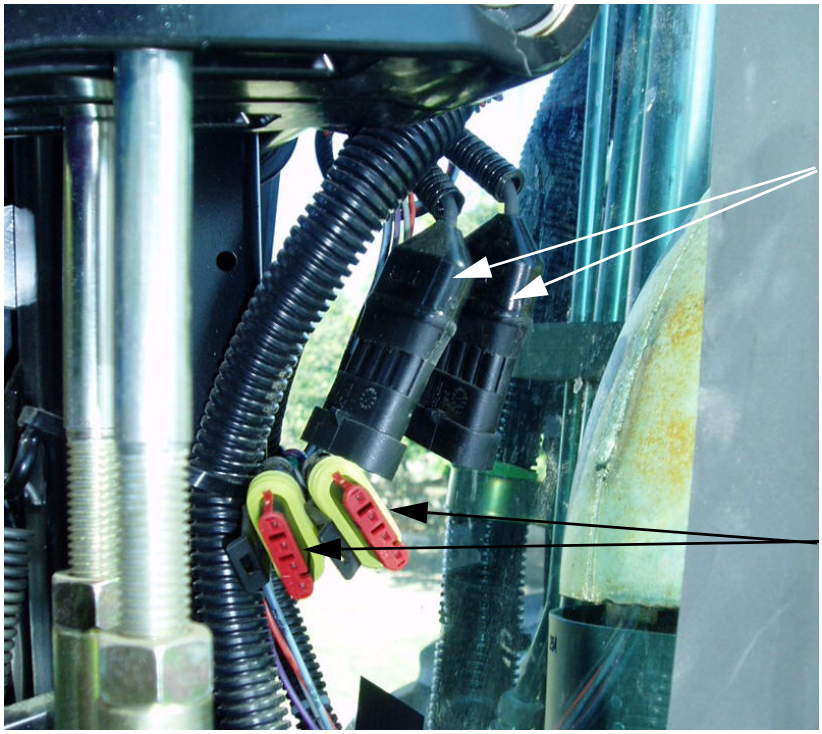
Steering Wheel Sensor Connection

1. Remove the steering column plastic panel. See *Figure 6-14*.

Figure 6-14 Steering Column Plastic Panel

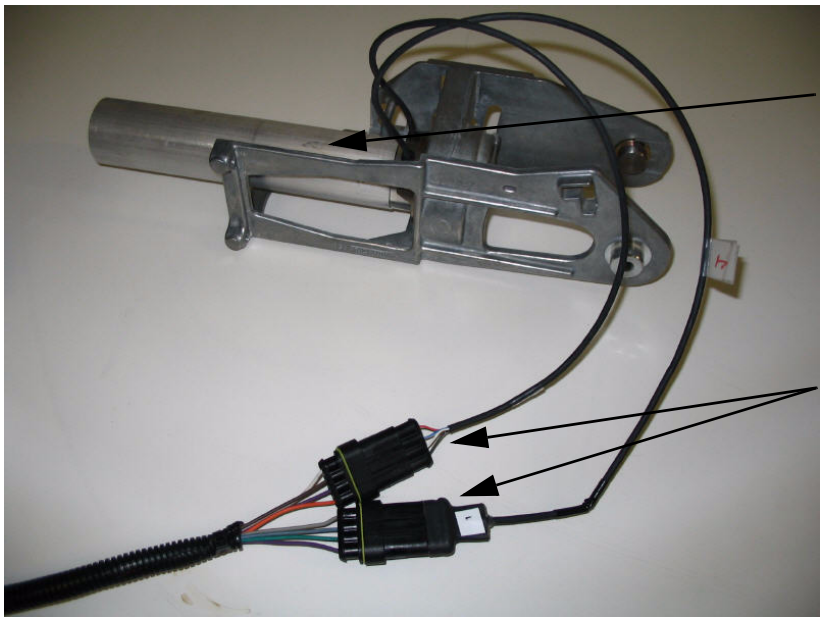
2. Locate and disconnect the existing John Deere steering encoder connectors. See *Figure 6-15*.

Figure 6-15 Steering Wheel Sensor Connectors Disconnected



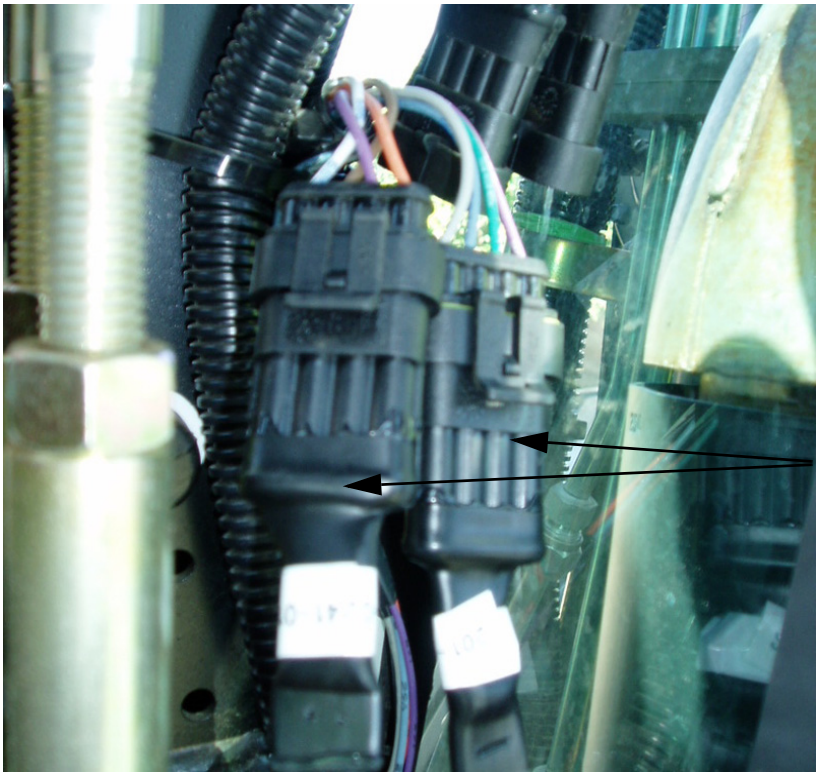
Note: The steering encoder is shown removed from the tractor in *Figure 6-16*. The steering column is shown removed from the tractor for illustration purposes only. It does not have to be removed to install the AutoSteer system.

Figure 6-16 Steering Wheel Encoder (shown on bench)



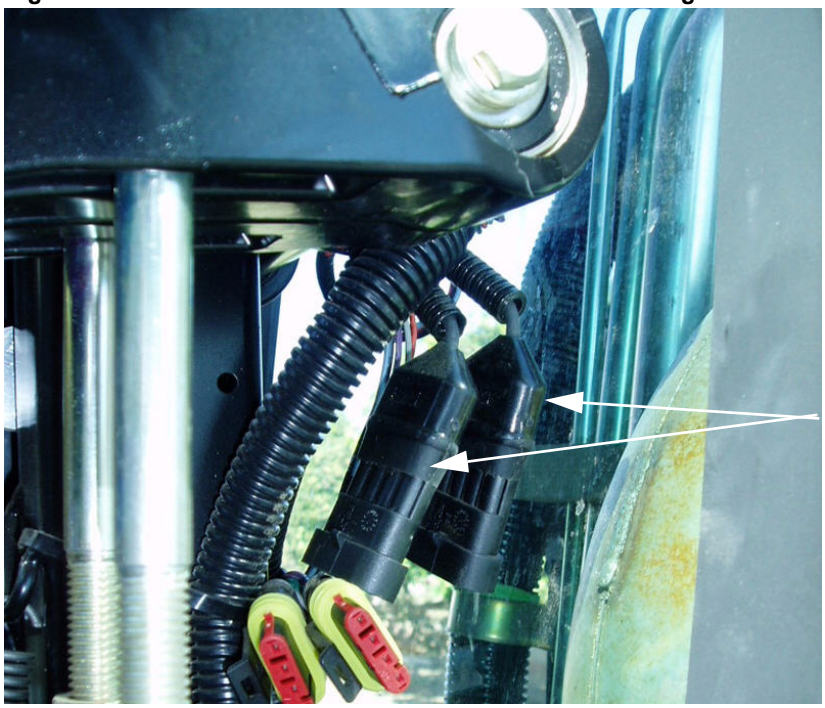
3. Install dummy connectors on the two John Deere steering encoder harness connectors. See *Figure 6-17*.

Figure 6-17 Steering Encoder Connector Dummy Connectors



4. Connect the single AutoSteer SAM harness connector to either of the two John Deere steering encoder connectors. See *Figure 6-18*.

Figure 6-18 AutoSteer SAM Harness Connection to Steering Encoder



5. Replace the steering column plastic panel. See *Figure 6-19*.

Figure 6-19 Steering Column Plastic Panel

Main Cable Harness

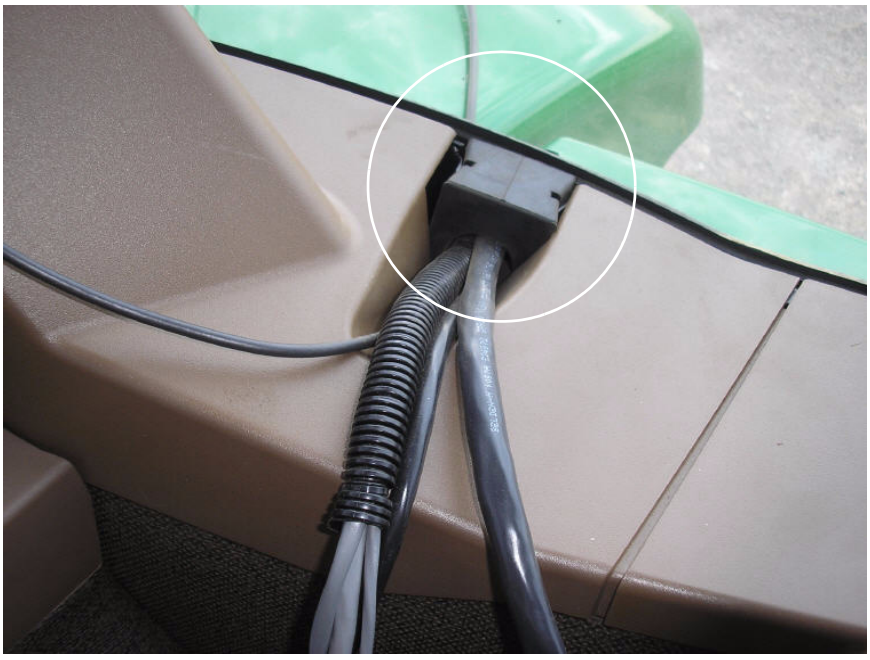
This Main Cable Harness section contains the following sub-sections:

- *Roof Module*
- *Display*
- *SAM Harness*
- *Cab Power*

Roof Module

1. Route the cable out the rear of the cab window through the rubber panel in the lower right corner of the rear window and secure with cable ties. See *Figure 6-20*.

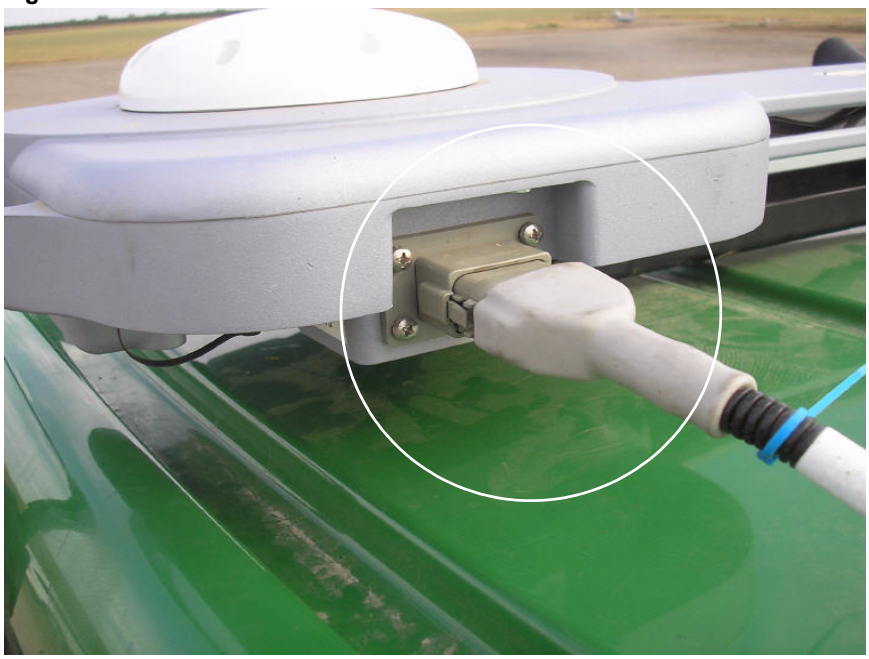
Figure 6-20 Main Harness Exiting the Vehicle Cab



2. Attach the cable to the roof module. See *Figure 6-21*.

Note: The Main Harness cable connector must be oriented correctly to engage the mating connector on the roof module. If the connector does not engage, do not force the connectors together.

Figure 6-21 Roof Module Main Cable Harness Connection



Note: To remove the cable, press the two latches on the side of the connector while pulling the connector away from the roof module.

3. Attach the LAN connector to the roof module. See *Figure 6-22*.

Note: Rotate the LAN connector sleeve clockwise to engage the connector and counterclockwise to disengage the connector.

Figure 6-22 LAN Connection

Display

Note: Refer to your Owner's manual for details on connecting the display harness.

SAM Harness

1. Connect the 12-pin data and 2-pin power connectors between the Main Cable Harness and the SAM Harness. See *Figure 6-23*.

Figure 6-23 SAM Harness to Main Cable Harness Connections

Cab Power

Note: The steps listed below show the procedure for connecting to the power outlet inside the cab. If you are not using the power outlet inside the cab refer to your display User Manual for cab power connection instructions.

1. Locate the 12V power outlet on the cab console right side. See *Figure 6-24*.
2. Attach the cable to the cab power outlet. See *Figure 6-24*.

Figure 6-24 Cab 12V Power Outlet

Final Hardware Installation Checklist

This **Final Checklist** chapter contains the verifications steps necessary after the installation of the AutoSteer system.

Note: The Final Hardware Installation Checklist is on the back of this page. Tear this page out of your manual and fill in the checklist after the installation. You should keep a copy of this checklist for future reference when servicing the vehicle.

Machine Model: _____ Year: _____ Serial #: _____

Customer Name: _____

Location/Address: _____

AutoSteer Installation Kit Part Number: _____

NOTES

_____

_____

_____

_____

_____

_____

Name of Installer: _____ Date: _____

System Installation Checklist

1. Wheel Angle Sensor Installed and all fasteners are tight. (Optional) ☐
2. Monitor Bracket Installed and all fasteners are tight. ☐
3. Roof rail is installed and all fasteners are tight. ☐
4. SA Module is installed and all fasteners are tight. ☐
5. All cable ends are connected. ☐
6. All cables are secured with cable ties. ☐
7. Manual steering is normal after the AutoSteer installation. ☐

AutoSteer Performance Checklist

1. Complete AutoSteer system calibration. ☐
2. Complete AutoSteer system tuning. ☐
3. Check total wheel angle sensor counts. ☐ Value_____
4. Line acquisition is satisfactory. ☐
5. On-line steering is satisfactory. ☐
6. Manual override (kick-out) is working. ☐
7. Steering speed from lock-to-lock is satisfactory. ☐ Value_____Sec.

Note: See the *Calibration and Tuning Notes* chapter for additional information.

Calibration and Tuning Notes

This **Calibration and Tuning Notes** chapter contains information for starting the Calibration and Tuning procedures in the following sections.

- *Vehicle Specific Installation Calibration and Tuning Guidelines*

Vehicle Specific Installation Calibration and Tuning Guidelines

Note: For optimal steering performance, the AutoSteer system must be fully calibrated and then tuned.

Note: Select the appropriate AutoTrac vehicle model when setting up your vehicle on the AutoSteer system display.